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DREAMCAST ■ PLAYSTATION ■ NINTENDO 64 ■ PC ■ ARCADE ■ ONLINE

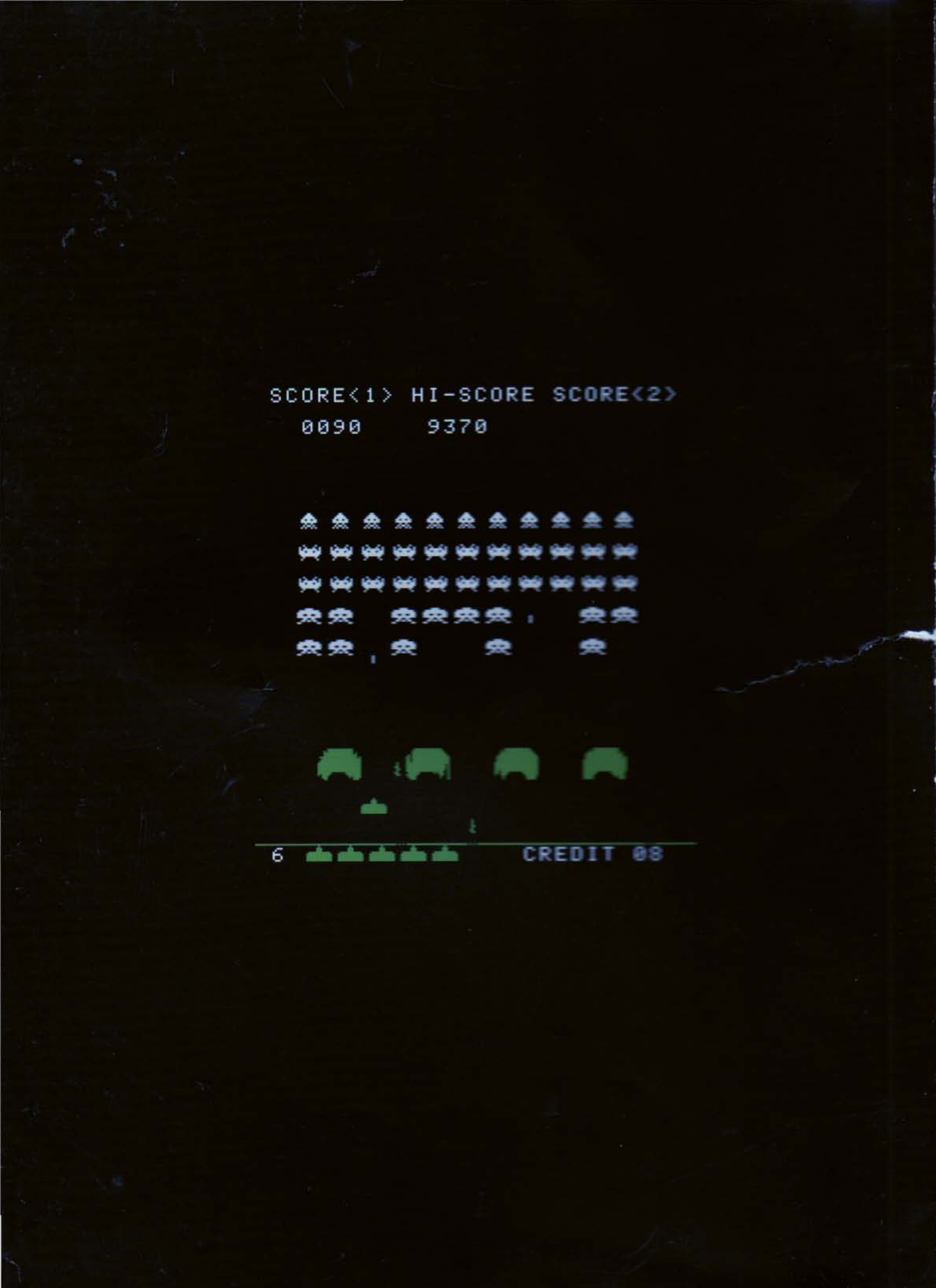
IS THIS GAME OVER FOR NINTENDO?



INSIDE: THE BIG N'S TWO NEW MACHINES
MIYAMOTO'S FUTURE PLANS
THE DEATH OF THE 64DD

PREVIEWED: DINO CRISIS • GRAN TURISMO 2 • OMIKRON • DEAD OR ALIVE 2 • BRAVEHEART • JUMP RUNNER

REVIEWED: ALIENS VS PREDATOR • BLUE STINGER • X-WING ALLIANCE • UM JAMMER LAMMY • THE HOUSE OF THE DEAD 2


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The answer to the question posed on this month's cover is an emphatic 'no', of course. But it *is* becoming increasingly difficult to see Nintendo achieving its aim as the new millennium approaches – that is, to wrest the control of the videogame industry back from Sony, which entered the hardware market just four-and-a-half years ago and proceeded to trample all over the company's dreams.

The announcement of Sony's next generation PlayStation has forced Nintendo to publicly admit the existence of its new console at a time when it should be looking to serve its N64 userbase with games of *Super Mario 64* quality. But such software is becoming thinner and thinner on the ground.

At this spring's Tokyo Game Show (see p52), only 2.9 per cent of the software on offer from thirdparty developers was N64-bound. True to tradition, though (last year aside), Nintendo will hold its own event, Space World '99, in August, where it will no doubt pull a number of surprises out of the bag. Despite recently intimating that it would finally be showing software for the 64DD (above) at the event, however, an **Edge** source has revealed that this simply cannot happen (read the full story on p7). One thing is certain: Nintendo will need more than a brace of new *Pokemon* titles at Space World if it is to remain a rival to the rumbling steamroller that Sony has become.

The N64's life to date has been fraught by delays, cancellations and disappointments. But it has also brought with it some of the most visually dazzling, technically innovative and simply delightful videogames.

Though the machine's death knell can already be faintly heard in the distance, **Edge** can't help feeling that the N64 hasn't been served justice. Here's hoping Nintendo's next machine (see p6) will fare better.

Contacts

Editorial

Future Publishing
90 Monmouth Street
Bath, BANES, BA1 2BW

Telephone: 01225 442244
Fax: 01225 732275
Email: edge@futurenet.co.uk
Recruitment: chris.haill@futurenet.co.uk

Subscriptions

Future Publishing Ltd
FREEPOST BS4900, Somerton
Somerset TA11 7BR
Telephone Customer Services:
01225 822510
Telephone Customer order line:
01225 822511
Fax: 01458 274378
Email: subs@futurenet.co.uk

People on Edge

Tony Mott editor
Caspar 'Thud' Field deputy editor
João Sanches reviews editor
Jon Jordan writer
Jane Bentley production editor
Terry Stokes art editor
Darren Phillips designer
Nicolas di Costanzo Tokyo bureau

Chris Haill advertising manager
Neil Abraham display advertising
Amar Hussain classified advertising
Chris Haill recruitment 0171 317 2604
Advertising fax 0171 486 5678
Zoë Rogers senior technical coordinator
Lou Reffell production manager
Production fax 01225 732293
Sarah Orchard ad design
Amy Miller print services coordinator
Judith Green group prod manager
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Simon Windsor, **Mark Gover**,
Jason Titley colour scanning
Chris Power foreign licenses
Jackie Garford publisher
Jane Ingham publishing director
Greg Ingham managing director

Colour reproduction

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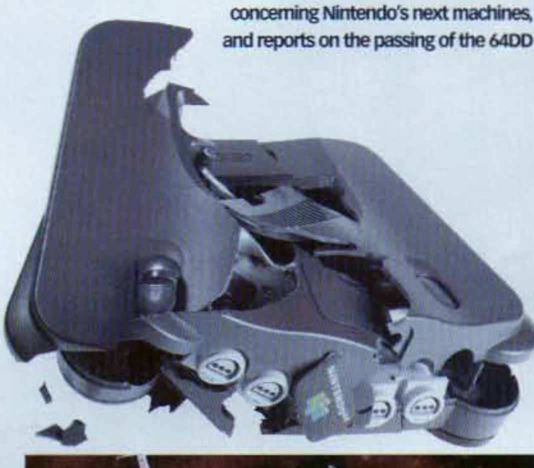
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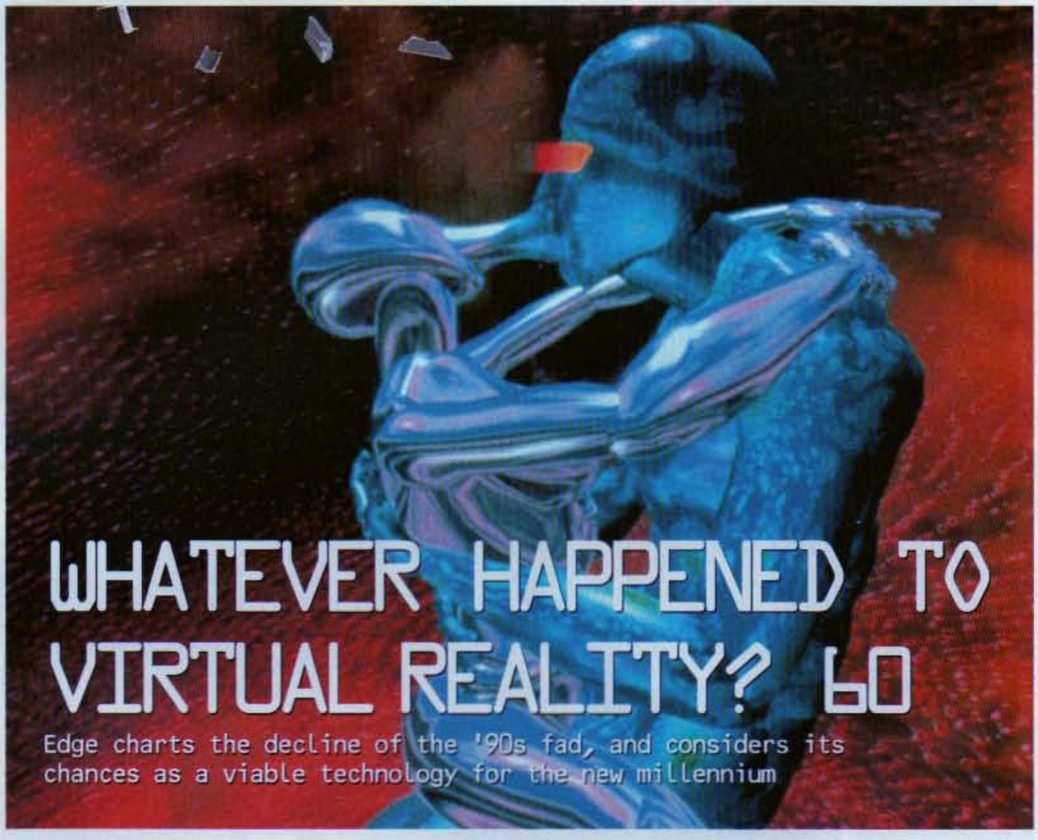
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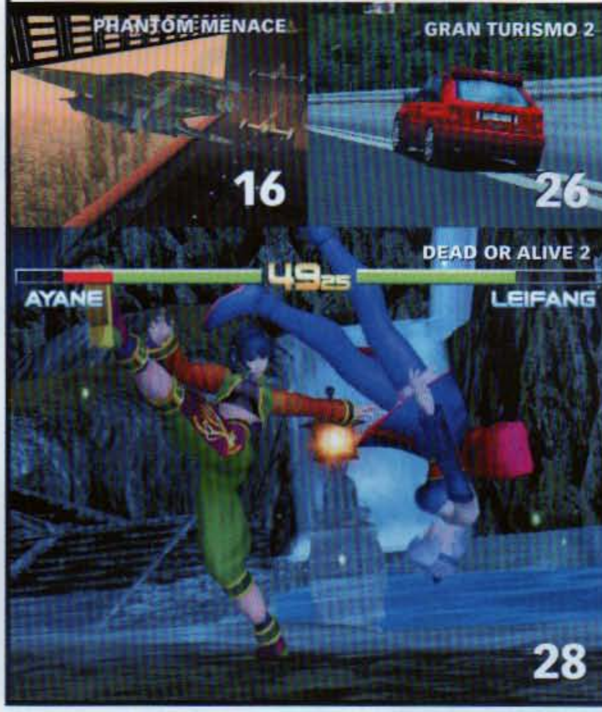
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Cutting Edge

The latest news from the world of interactive entertainment

NINTENDO INSIDER CITES **NGPS-BEATING** PERFORMANCE

N64's successor to better Sony's recently revealed technology as Nintendo commits to new storage medium



Nintendo's Kyoto-based HQ is home to some of the industry's best-kept secrets, not least of which being a Sony-beating superconsole

NGN OPINION

Edge spoke to a prominent N64 developer, who wishes to remain anonymous, to get his take on the NGN: "Every year you expect power to double. Nintendo's machine will not offer double that of the NGPS, but it is going to be a year later. Sony is shipping development systems to Japanese companies now. Apparently there are no Nintendo systems in existence and there won't be until at least the end of the year. I think Nintendo still has a chance, I don't think it's going to screw up, but I think that Sony's going to win everything. Sony is already in the DVD market, whereas Nintendo isn't, so I think that it's a done deal: Sony makes DVD players, Nintendo doesn't; Sony owns some of the patents on DVD, Nintendo doesn't. Sony is better placed to capitalise on the DVD market."

An insider at Nintendo has revealed to **Edge** that the company's new machine already has performance to outstrip that of Sony's next generation PlayStation (see **E**70). **Edge**'s source also confirmed that the new format will eschew the company's long-favoured cartridge storage medium in favour of DVD-ROM, and that the system will be built with connectivity – via the Internet – as a core asset.

The source, who wishes to remain anonymous, refutes the suggestions recently made by many industry insiders, who claimed that the unveiling of Sony's next generation PlayStation demos (see **E**70) had forced Nintendo to "go back to the drawing board" in its own hardware development. **Edge** posed the question to its insider source: Hasn't Sony's recent demonstrations forced Nintendo's engineers to rethink their strategy? "No," was the confident response, "the specs haven't changed at all."

Software issues

Nintendo has for some time been working with ArtX, a break-off group from Silicon Graphics Inc. (which famously provided the guts for the original Nintendo 64), to provide replacement technology for its struggling 64bit format. While Nintendo's outward stance has remained firmly committed towards its existing consumer base (the company claims it will hit an installed figure of 30m by the end of this year), **Edge**'s source revealed that a significant proportion of the company's internal resources are concertedly focused upon developing libraries and, more significantly, software for a new home format.

Of all the hurdles Nintendo will face with its new hardware, software support will be the most significant. Despite once counting the likes of SquareSoft, Namco and Capcom among its staunchest supporters during the 16bit era, Nintendo failed to bring the most creative thirdparty Japanese powerhouses to its 64bit format with any degree of conviction – Namco's biggest commitments, for instance, having been Japan-only baseball games.

Nintendo's new-found appreciation of the value of disc-based storage is no doubt intended to engender it to the development community that so lovingly embraced the PlayStation. Sony may have already run too far with the ball for Nintendo to ever regain the market-leading position it once enjoyed, but as **Edge**'s source at the company put it: "It's not over yet. Not at all."

Nintendo's new-found appreciation of the value of disc-based storage is no doubt intended to engender it to the development community that so lovingly embraced the PlayStation

The new DVD-ROM machine is expected to launch in Japan in November 2001 (Nintendo has a long-standing tradition of launching major hardware and software releases on November 21), but there is no indication of a possible name for the format to date.

A rumour recently circulating within the upper echelons of the industry suggested that Nintendo was set to release its new format as a no-thirdparty-software machine, leaving sole responsibilty for games to the hardware manufacturer itself, but superpublisher Electronic Arts is now known to be working with the machine, while Texas-based developer Retro Studios is working on dev tools, and Acclaim has committed to publishing titles for the format.



With DVD-ROM, Nintendo has finally embraced disc storage

64DD DIES AS NEW NINTENDO **HANDHELD LOOMS**

Nintendo's revolutionary add-on is scrapped as the company focuses energy on a Game Boy successor

Despite Nintendo having not announced the unit's official demise, **Edge** can confirm that the company's hardware engineers have canned the 64DD, the proposed N64 add-on storage device first mooted by the company way back in December 1995.

Nintendo has invested millions in the development of the 64DD, and its passing is a major blow for a company which, from the mid '80s to the early '90s, called the videogames market its own.

The 64DD, which used 64Mb discs (of which 32Mb was writeable by the user), was to form the heart of the 'Evolving Video Game Machine' – as Nintendo once termed the N64 – but uncertainty regarding the reception such an add-on would receive in today's plug'n'play mass market, plus lack of software commitment, sealed its demise.

Shigeru Miyamoto once claimed that "[Nintendo] will develop a lot of games that require both cartridge and disc, simply because of the potential to make greater games," and the company actually released *F-Zero X* with 'hooks' which would allow it to pass and receive data to and from the 64DD drive, but such an initiative is now set to go down in history as just another one of videogaming's pipe dreams.

Nintendo had in fact completed work on various 64DD projects, including those that would make up its *Mario Artist* series, but is simply putting much of its development work down to experience, according to a Nintendo insider. Titles such as creativity package *Picture Maker* will be resurrected and re-engineered in cartridge form at some point (Miyamoto-san has recently spoken of his involvement with such a title), if only for the Japanese market, while *Mother 3* and *Super Mario RPG 2* – the two biggest actual games in development for the 64DD, the bulk of whose content is being created by external teams – will definitely make it to market in stripped-down form in the future. Again, however, it's not clear whether or not they will officially make it to the west.



Working 64DD units exist (in uncertain numbers), but will never be released

Handheld horizons

Replacing the 64DD as Nintendo's secondary slice of forthcoming hardware is a new handheld machine whose software Miyamoto-san has confirmed he is working on.

Unlike the Game Boy Color, the new machine is not expected to be backwards-compatible with any existing Nintendo software. Rather, it appears that the company has taken a step back to appraise the profitability and, more importantly, longevity of the handheld market, and prepare a format which will fall somewhere between the SNES and N64 in terms of performance.

In terms of revenue, the handheld market is more important to Nintendo than the home console market by a huge margin, and its continued commitment to portable gaming will certainly allow the company more prolific creative output.

Nintendo in trouble

With the cancellation of its power-bolstering 64DD, Nintendo will fight its opposition – Sega's Dreamcast, due in the UK on September 9, and the next generation PlayStation, expected to hit Japanese retail in December – with a piece of hardware whose performance is beginning to look creaky.

When Nintendo prepared to launch the N64 in the summer of '96, company



Following the success of its Game Boy range, Nintendo is continuing its heavy investment in handheld gaming. Will its new unit look like this? (No)

64DD TIMELINE

December '95
'Bulky' drive details released
February '96
64DD release 'set' for late '96
June '96
N64 released in Japan
November '96
First appearance of 64DD at Shoshinkai Exhibition. Games are conspicuously absent
November '97
Hiroshi Yamauchi apologises for "slow development" of the 64DD. A release date of summer '98 is rumoured
August '98
November release date for 64DD is set for Japan
October '98
NOA president Howard Lincoln confirms indefinite postponement of 64DD outside Japan
November '98
Zelda 64 released in Japan as cartridge-only game
March '99
64DD pronounced dead



Zelda 64 was set to be the 64DD killer app, but was forced on to cart. Shigeru Miyamoto has since called it the high point of the N64's life



The 64DD was to take the N64 in new directions, with add-on carts offering video-input capabilities. Such initiatives have since been dumped, however

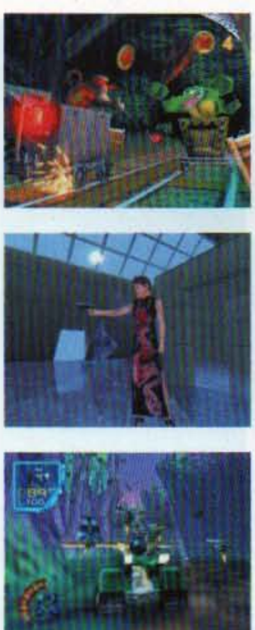
president Hiroshi Yamauchi boasted that as far as software was concerned it would be a strict case of quality over quantity. In retrospect, this policy was rather weakly enforced, but the N64 does possess a handful of games that will be remembered as some of the greatest ever to grace a console. At this point in time, however, the machine's future looks rather grim. A quick look at UK distributor THE's current release schedule for the rest of 1999 reveals a startling lack of titles – even weak ones. Of the 19 games listed to appear in the remainder of the year, only Rare's *Jet Force Gemini*, *Perfect Dark* and *Donkey Kong 64* trio shouts triple-A quality. THE's roster is by no means a comprehensive list (*Resident Evil 2* and Boss Games' *World Driver Championship* are notable absentees), but it remains an indication of a rather chastened year facing N64 owners.

Ironically, Nintendo itself is offering little support. Out-of-house-developed offerings such as *Mario Party* and *Smash Brothers* are not going to radically alter the predicament facing the company's 64bit system, and *Super Mario 64 2* plus a new instalment to the *Metroid* series only amounts to two games, after all.

Trailing behind

Nintendo is realising that it is rapidly running out of franchises to update its 64bit status. A healthy supply of original software is desperately needed for its current console if it is to face up to 128bit opposition over the next two years.

Unconventional architecture resulted in a lamentably small number of coders really getting to grips with the Nintendo 64, and, after only three years, a significant number of the machine's earliest devotees have been lured to the camps of Sony and Sega. Nintendo now faces one big hill to climb.



From top: *Donkey Kong 64*, *Perfect Dark* and *Jet Force Gemini*: three crucial future N64 titles



(Left column) *Picture Maker* was one of Nintendo's three proposed 64DD creativity titles. Software Creations led its production, and a streamlined version is now set for cartridge release. (Second column) *Talent Maker* would have encouraged the use of video input. (Third column) *Polygon Maker* was a relatively powerful modelling tool. (Fourth column) 64DD titles *Super Mario RPG 2*, *Mother 3* and *Sim City 64* are being re-engineered as cartridge releases

MIYAMOTO RETURNS TO HIS ROOTS

The father of modern gaming makes an impassioned call for creativity



Speaking at the Game Developers Conference in San Jose, California, *Mario* creator **Shigeru Miyamoto** outlined his vision of the future for both Nintendo and gaming in general to a packed auditorium.

Miyamoto-san began by describing the shift in control of the creative process that has resulted from ever more powerful game systems. "In recent years, as I predicted, advancements in technology have once again brought programmers and engineers to the forefront of game design, and we are now in age in which we cannot accomplish anything new without these individuals." The inference is that Miyamoto is feeling divorced from the creative process, something that industry commentators have long believed.

Pioneering spirit

"People have paid me a lot of lip service… and have gone so far as to suggest that I try my hand at movies," he related. "But I feel that my strength lies in my pioneering spirit to make use of technology to create the best, interactive commodities possible, and use that interactivity to give users a game they can enjoy and play comfortably."

Aside from *Zelda: Ocarina of Time*, some of Nintendo's 64bit additions to its classic game brands have not matched expectations – particularly the disappointing *Yoshi's Story*. Miyamoto-san tacitly admitted this by saying, "Recently, I've encountered many instances in which we hit a brick wall in game development, and never quite make it to completion. I believe many of you have at one time or another found yourself in the same boat, and may have even had no choice but to release a game to market in an incomplete or unsatisfactory condition.



"I am very sorry to see that the uniqueness of many titles has been dependent upon new technology and specialty development tools, while the personalities of the creators have been diluted," he added. "For me, game creation is like expression through music."

Fresh approach

It seems that the sheer scale of his recent projects for Nintendo has caused Miyamoto to re-assess his approach to game creation. "Shall I begin making *Zelda* for our next generation hardware? At this point, the answer to that question is no," he stated bluntly. "With improved hardware, I can imagine *Zelda* having more detailed graphics and a quicker response time, but when it comes to increasing the degree of fun, I cannot be certain of that at this time," he explained, warning that, "This is something I feel we as designers must reconsider."

Miyamoto-san then demonstrated his latest project, "A newly born *Mario Paint*," while carefully revealing the path ahead for NCL and its affiliates. "Nintendo will make efforts to create new types of commodities by combining the Game Boy, the Game Boy Camera, the Rumble Pak and others with the N64."

Plea for creativity

He then questioned the direction that the videogame industry was heading. "When we were stuck on the spectacular 3D graphics of *Mario 64* and racing games, we saw a huge hit in the form of Tamagotchi," he pointed out. "I thought that *Mario 64* had lost to Tamagotchi."



Miyamoto-san was greeted with a standing ovation at GDC. The feted creative is currently focusing his talents on handheld technology

"I am very sorry to see that the uniqueness of many titles has been dependent upon new technology and specialty development tools, while the personalities of the creators have been diluted" Shigeru Miyamoto

Summing up, the father of modern gaming made an impassioned appeal to his industry counterparts: "My friends, let us design unique, fun software with new appeal… so that gaming is not left behind as a separate, closed-off world."

The success of Game Boy and the failure of the N64 has shaken NCL to its core. By offering Nintendo's customers greater flexibilty and creativity, it seems Miyamoto-san is seeking to re-ignite his own – and increase his employer's profit margins in the process.

SONY'S NGPS TO ATTACK PCS AND TARGET OLDER GAMERS?

Edge attends a Q&A session revealing Sony's plans for coin-op conversions, tackling piracy, and the potential of an untapped market







Ken Kutaragi (above), formerly EVP and co-COO, now replaces previous SCEI president and CEO Teruhisa Tokunaka (left) who moves over to the company's board





After the Q&A session, all of the NGPS demos were shown again, including the *GT* demo – in playable form, of course (above)

Shortly after the next generation PlayStation announcement – reported last issue – SCEI held a Q&A session for the world's videogaming press with then-SCEI president and CEO **Teruhisa Tokunaka**, executive vice president and co-COO **Ken Kutaragi**, and vice president of R&D, **Shinichi Okamoto**. Their comments show total confidence in the NGPS as an integral part of home entertainment for the future.

"The NGPS will continue to be a games machine, obviously, but because of its many capabilities maybe it can be connected to other audio visual products in the future" Teruhisa Tokunaka

Q: What do you envisage achieving with the NGPS?

Teruhisa Tokunaka: I see the PS and NGPS standing side by side with all of the televisions in people's homes. The NGPS will continue to be a games machine, obviously, but because of its many capabilities maybe it can be connected to other audio-visual products in the future. For example, maybe you can take your own picture with a camcorder and modify a character in a game so that you will be the hero in the game. That's one of the things I can imagine happening.



SCEI's top trio and the next generation PlayStation (in impressively compact dev-kit form) face questions from the world's gaming press

Q: How do you plan to tackle the inevitable problem of piracy?

Ken Kutaragi: This is a very, very serious issue so we're obviously going to incorporate any kind of system possible, but naturally we're not about to explain the intricacies of such a system.

TT: From a legal standpoint, we're pursuing some of the sources of piracy in some of the Asian countries, so we've been working very energetically during the last three years with the police and governmental organisations, and I don't know how many litigations have been issued in those countries. The best solution, obviously, is an engineering rather than a legal solution, so I would like us to continue to work on it to make it more and more difficult to pirate software. That is very, very important, not only for us but also for the industry.

Q: Are you not worried that there may not be enough time for developers to get their respective games ready for the launch?

TT: One thing is for sure: if the software is not ready there is no launch. We were concerned about whether the software would be ready in time for the Japanese PlayStation launch in December 1994, but actually, as we approached the March 2 release date, the quality of the code improved dramatically. The night before the announcement both Ken and I went to see the the [NGPS] demonstrations. Some of the software was clearly having some problem and I recall that some of the cars in the *GT* demo didn't have wheels… But I really admire the people that did them – 15 hours after we saw them there were dramatic improvements in all of those demonstrations. I was surprised, actually. Very surprised.

Q: Are you expecting current PlayStation sales to suffer as a result of this announcement?

TT: I think the people purchasing the PlayStation today are very different from the people who purchased the PlayStation initially. So I'm not concerned that the current PlayStation sales will be substantially affected by this

announcement. Because the NGPS is able to play current PS software I think the support from developers for the current software will be continued – it's much easier for software developers to invest their resources on the current PS. So I think many people will still be interested in acquiring the current PS.

Q: Can we expect further price reductions for the PlayStation?

TT: We can't currently comment on future pricing strategies, but I think that you can realise from our track record that as we improve our manufacturing capabilities we try to transfer that ability to the market and that increases it. That is what we've learnt over the last four years.

Q: Are you envisaging arcade applications based on the NGPS?

KK: If someone wants to utilise this technology for arcade use we can support it.

Q: Do you expect the NGPS to replace PCs at all?

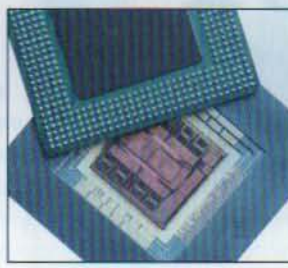
KK: Because this system will have the USB interface you can connect a keyboard and other peripherals, so it's very, very possible. But I don't want the PlayStation to simply be a computer in the home, so the NGPS will be closely linked with the TV in the living room.

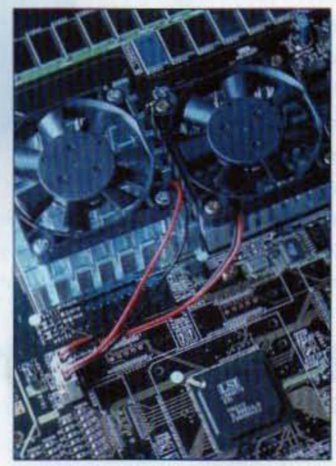
Q: Are you confident that this system will bring with it a totally new style of game?

TT: We certainly hope those sort of games will be made – that is our dream. Mr [Norio] Ohga (Sony Corporation's chairman and CEO) told us some days ago about his secretary's father who is 58 years old with a law degree and working for one of the biggest trading companies as a senior executive. His daughter asked Mr Ohga if she could borrow his copy of *FFVIII* and he thought she would be playing it, but a few days later she came back and said that in fact it was her father who had been playing it. Mr Ohga was very impressed with this and he's been asking us to encourage the development of software specifically targeting older consumers. His other reason for that is that his wife is a concert pianist and [at the announcement] he mentioned [Arthur] Rubinstein and others who had a very clear mind even past 90 years of age. His theory is that using your fingers is very good – and he believes that the PlayStation is a good thing for older people. But the unfortunate situation is that most developers are still very young, so I told him that maybe in 30 or 40 years from now, when programmers are in their 60s, he should expect plenty of software he can play. [Laughs]

"You can connect a keyboard and other peripherals. But I don't want the PlayStation to simply be a computer in the home, so the NGPS will be closely linked with the TV in the living room" Ken Kutaragi







The Emotion Engine and Graphics Synth (above) are finished chips (which require a hefty amount of cooling during operation – see right) but the NGPS's internal architecture is still in the process of being tweaked



More images of Namco's *Tekken* NGPS demo shown at the announcement in March, conveniently illustrating the ludicrous level of detail present not only in the near-CGI quality of the two fighters but particularly in the realistic-looking area surrounding them, including the 30 fully animated onlookers

PSYGNOSIS SHUTS UP CODESHOPS

Redundancies and branch closures hit superpublisher as Sony steps in

Once a multinational publisher of repute and considerable power, Psygnosis has now been reduced to a mere three studios in Sony's radical shake-up of the company. The latest twist in an almost inconceivable story came on March 25 when members of the Stroud development studio – responsible for *G-Police* and *Colony Wars* – were told that the office was to be shut down with immediate effect. A handful of staff have been kept on for three months to finish two projects – *G-Police 2* and *Nations* – but then they too will be made redundant. Further job losses and project cancellations have also been reported at the Liverpool HQ and London Camden studio, while Psygnosis' Paris branch is now owned by Infogrames. The company's Leeds-based studio, however, remains virtually unscathed, despite the mediocre reviews handed out to its recent projects, *Retro Force* and *Global Domination*.

The extent of Sony's culling is perhaps most startlingly evident in Psygnosis' product line-up. Last year the company was working on around 60 titles; this year it will be closer to six. Big properties like *Wipeout*, *F1*, *G-Police* and *Colony Wars* now seem to represent a majority of the output.

It is not known how the shake-up will effect deals with thirdparty developers such as Attention To Detail, responsible for the popular racer *Rollcage*.

With Gremlin recently swallowed up by Infogrames (see opposite), it has been a month of ups and downs for veteran British publishers.



***G-Police* (top) and *Overboard* were two of the successful titles from Psygnosis' Stroud office**

DREAMCAST US LAUNCH PARTY

Sega cites 38 titles set to ship in the States by mid-2000

Sega of America has sent an interesting list of forthcoming Dreamcast games (below) to software retailers in the US. While some of the 38 titles seem highly unlikely to emerge (Argonaut denies any existence of a Dreamcast *Croc*), others such as *Hydro Thunder* from Midway are known to be in progress. Quite where *Missile Command 3D* fits into the superconsole's brand values, meanwhile, isn't clear.

Extraordinary inclusions are *Grand Theft Auto 2* (a Dreamcast version has so far been denied by Take 2), *Shenmue* (due to the vast translation task needed), and, most bizarrely, *Ridge Racer Plus* and *Time Crisis II* from Namco – two titles that would be massively significant to Dreamcast's credibility in the west.

In a related story, major American retailers such as Toys 'R' Us are believed to be preparing for a $200 price point. European pricing is likely to follow the pound-for-dollar rule, indicating that the £200 first predicted in **E**62 is correct. Further speculation suggests that Sega Europe will bundle a modem with its version of Dreamcast in order to ensure that the console's network capability is fully exploited by developers.

DREAMCAST US RELEASE SCHEDULE

September 1999

The House of the Dead 2	Sega
NBA Basketball	Sega
NFL Football	Sega
Sonic Adventure	Sega
Super Speed Racing	Sega
Virtua Fighter 3tb	Sega
Hydro Thunder	Midway
Mortal Kombat 5	Midway
Ready 2 Rumble	Midway
Castlevania	Konami
Soul Calibur	Namco
Power Stone	Capcom
Croc	Fox Interactive
Alien Resurrection	Fox Interactive
Project Velocity	Acclaim
Missile Command 3D	Hasbro Interactive

October 1999

Evolution	Sega
Geist Force	Sega
Daytona USA 2	Sega
Shenmue	Sega
Sega Rally 2	Sega
Star Wars Trilogy Arcade	Sega
Marvel Vs Capcom	Capcom
Cool Boarders 3	UEP Systems
Grand Theft Auto 2	Take 2
South Park	Acclaim

Year 2000

Age of Empires	Psygnosis/Microsoft
Oddworld: Munches Oddysee	GT Interactive
Unreal	GT Interactive
All-Star Baseball	Acclaim
NFL Quarterback Club	Acclaim
Dead or Alive 2	Tecmo
NiGHTS 2	Sega
Zombie Zone	Sega
World Series Baseball	Sega
Ridge Racer Plus	Namco
Time Crisis II	Namco

INFOGRAMES GOBBLES UP **GREMLIN**

French giant gets a bargain as Sheffield publisher finally gives up war of independence

Following months of speculation about its future, Gremlin has accepted a cash bid from Infogrames. The French superpublisher offered 120p per share for the Sheffield-based company, valuing it at £23 million. When Gremlin first floated in 1996 it was worth £29 million. As over half of Gremlin's shares are controlled by directors Ian Stewart and Jenny Richard-Stewart, their acceptance gives Infogrames control of the company.

"There are exciting times ahead," stated **Ian Stewart**. "Infogrames is a dynamic, ambitious group. Opportunities will be created." While the takeover is amicable, questions remain concerning the manner in which Gremlin will be integrated into Infogrames' UK structure. Job losses are expected to be kept to a minimum. However, there remains uncertainty concerning the position of Dundee developer DMA Design.

Fuelled by a war chest of £92 million, Infogrames has entered a period of aggressive acquisitions to allow it to compete with big American publishers on their home turf. The purchase of Gremlin effectively doubles the company's development strength. The potential of the *Actua* range of sports titles is another attraction. In turn, Infogrames' marketing muscle should bolster Gremlin's sales.

Ever since it floated on the stock exchange, Gremlin's share price has been under pressure despite its solid performance. It had become clear recently that the company needed a strategic partner to help develop its brands globally. Companies rumoured to be interested in acquiring it included Microsoft and Eidos. Take 2, meanwhile, had its eye on DMA if Gremlin was to be broken up.



Gremlin director Ian Stewart when he heard the news of the company's £23m sale to Infogrames

News of the Infogrames bid came as other software companies quoted on the stock exchange have attracted increasing speculation. Eidos' share price continues to rocket, breaching the £20 barrier, while SCi, creator of the *Carmageddon* series, saw a 37 per cent rise in its share price during one week. Neither company admits to being up for sale. By contrast, Rage seems certain to be bought in the next couple of months, with Microsoft and EA rumoured to be among the front runners.

PS EMU HITS PC AS **SONY SUES**

Another PlayStation emulator rocks Sony's boat as it attacks alleged BIOS infringement

Beating Connectix to the punch with a commercial PlayStation emulator for the PC is *bleem!*, whose optimisation makes it possible for owners of even P166-spec machines to run many PlayStation titles – and in greatly enhanced form when using a 3D accelerator card. Sony has yet to react to *bleem!*'s author (**www.bleem.com**), which is selling the software at $25.

However, the Japanese giant *has* attacked ActionWorld Inc, the host of Dave's Classics (**www.ugo.com/daves**), which Sony alleges infringed the PlayStation's BIOS by copying it and making it available as a download. A lawsuit has been served.



Although the minimum system requirement for *bleem!* is a P166 with 16Mb of RAM and a 16bit graphics card, it really comes into its own when running on high-end systems. The only way to improve *Gran Turismo* prior to the forthcoming sequel is with *bleem!* (right) – in this case running on a Voodoo Banshee card with Direct 3D

CUTTINGS

Kurt's second coming
Interplay has confirmed *MDK2* will launch with Dreamcast in the US. BioWare (*Baldur's Gate*) is developing the sequel using its Omen engine. In addition to anti-hero Kurt, two additional playable characters, Max the robot dog and Dr Hawkin, will be introduced.

Silver screen support
In a move to increase the profile of its *Aliens Vs Predator* title, Fox Interactive is showing a one-minute trailer in United Artist theatres. It is the first time a major studio has promoted a game this way in the US.

Incoming to coin-op
Reversing the normal direction for games, Rage's *Incoming* will be unleashed into American arcades in June. "*Incoming* for PC is almost perfect, and we intend to make it perfect for the arcade," joked **Bruce Klein**, president of distributor Virtual Games.

Virtual PlayStation 2
With the power of the next generation PlayStation placing high demands on developers, Cygnus has released a new set of middleware tools. The software-based 'virtual platform,' distributed by Sony, will allow developers to begin creating and testing games prior to receiving the finished hardware.

More fame for Meier
The Academy of Interactive Arts and Sciences has announced that Sid Meier is the recipient of this year's Hall of Fame award. The creator of games such as *Alpha Centauri* and the *Civilization* series will be inaugurated at the annual ceremony during E3.

007 Mk 3
With the next Bond film, 'The World Is Not Enough' opening in November, EA has confirmed that the game of the film will use id's *Quake III* engine in its PC incarnation. A PS version will follow.

Openings for *WinCE*
Microsoft continues its stalking of the games industry with news that Acclaim is developing a title using the Dreamcast-specific *WinCE* operating system. Other developers using *WinCE* include Konami, Hudson and Kalisto.

PRESCREEN

EDGE PREMIERES INTERACTIVE ENTERTAINMENT'S FRESHEST FACES

Lost in space

When big isn't always beautiful

This is the age of the epic videogame. Driven onwards by the relentless advancement of 3D technology, game designers from Guildford to Kyoto are busy forging vast adventures for gamers to experience. Undoubtedly, the masters of this burgeoning art are the Japanese, thanks to years of toying with the potential of the RPG. *Zelda: Ocarina of Time*, *Metal Gear Solid*, *Final Fantasy VII* and *VIII* – not to mention the forthcoming *Shenmue* – are the aspirational titles of the late '90s. And in some respects they're stifling game design.

Since the ascendancy of PlayStation it has become fashionable among those in the know to deprecate the 'casual gamer'. Capable of playing a game for less than an hour, these soulless cattle have the audacity to switch on their consoles after returning from the pub. Some are rumoured to own less than five titles for their machine. Others have been reported to invite 'mates' to their homes and are seen enjoying themselves in front of their PlayStations. That they have no desire to scour the deepest recesses of Square's latest epic makes their sins even more unforgivable.

In truth, many of these massmarket videogamers do play and enjoy the *Metal Gear Solids* and *Zeldas* – as their sales figures indicate. But while the games industry and hardcore players descend into disarray at the prospect of the next generation PlayStation and its implications for game creation, the casual gamers won't even notice. The most popular console on earth is the Game Boy, and one of the main reasons for its dominance is *Tetris*. A lesson lies therein.

Just because the next Nintendo and Sony machines are capable of delivering entire worlds to explore, it doesn't mean that every game must now be an epic. Capcom's *Power Stone* is a perfect illustration of how to create a superconsole title – the beauty of the game is in its simplicity. It would have been perfectly feasible for there to be an entire city in which to fight – but would it have enhanced the game? Probably not.

Nothing is more daunting than a world without limits – which is (more or less) what Sony and Nintendo are about to offer game designers. Just as the team behind *Power Stone* realised, the inventors of the next wave of interactive entertainment must mark out their own conceptual boundaries before work begins. Not every title has to be an epic, not every title can be *Zelda*. People like playing games. Gamers like epics. Which says it all.





While Japanese developers steam ever onwards, striving for another 'epic' such as (from left) *Metal Gear Solid*, *Zelda* and *Final Fantasy VIII*, is the sense of what defines a true 'game' being lost?

Edge's most wanted

Razor sharp games on the cutting edge






Metropolis	Dead or Alive 2	Dino Crisis	Legend of Mana
(DC) Bizarre Creations	(DC) Tecmo	(PS) Capcom	(PS) SquareSoft
Ever seen a brake calliper working in realtime? Real cars, real cities, relentless racing. Bizarre Creations' Euro-launch title looks set to be utterly stunning.	With a tag-team option and the prospect of more voluptuous, jiggling she-fighters, it was strangely difficult not to be drawn towards *DOA2* at TGS.	Resurrecting dinosaurs might be old hat, but the terrifying prospect of facing intelligent, quick, bloodthirsty Raptors is another winning formula.	An old favourite makes a hugely welcome return on a platform that seems made for it. Expect swish graphics, a classic musical track and honed gameplay.

Index

PRESCREEN ALPHAS

THE LUCASARTS EMPIRE STRIKES BACK, AND BIZARRE CREATIONS RACES AHEAD OF THE PACK

STAR WARS: EPISODE I RACER

FORMAT: **PC/PS/N64/MAC** DEVELOPER: **LUCASARTS**





















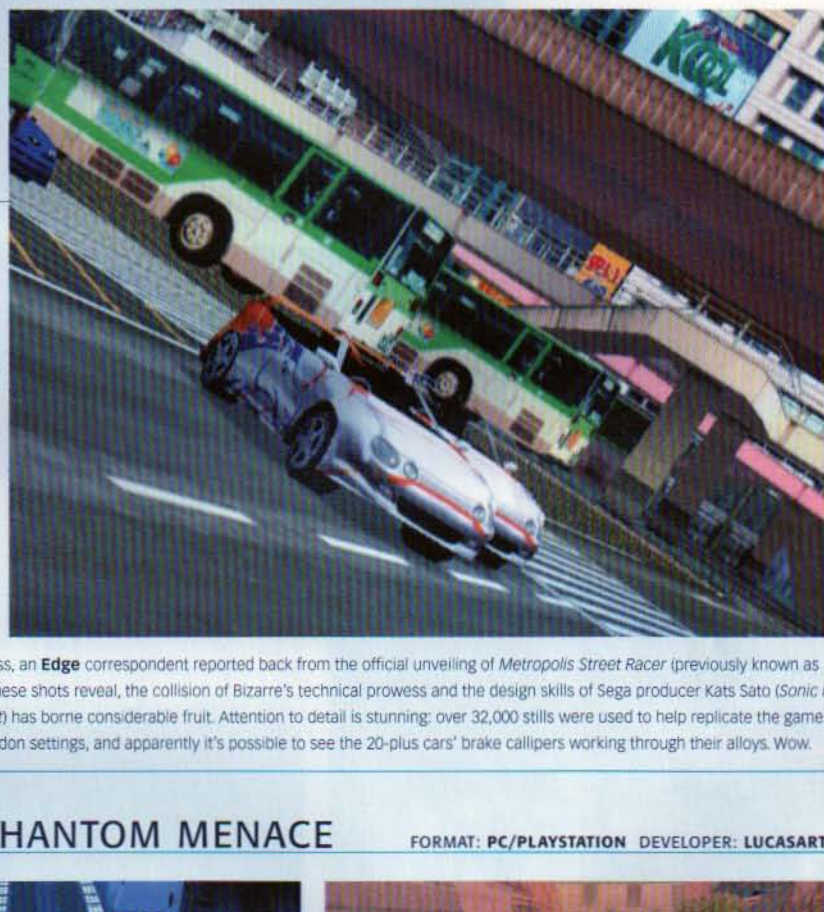


Based on the Podracing sequence in LucasFilm's forthcoming 'Phantom Menace', *Episode I Racer* sees you jumping into the cockpit of any of the 20 featured Podracers, including young Anakin Skywalker's. Races occur on eight interplanetary locations at speeds of around the 600mph mark courtesy of massive jet engines. Coming to a console/computer near you soon (PC shots shown), **Edge** hopes this isn't another sad case of 'if it moves and it's in the film, heck, we'd better make it into a shallow game...'

METROPOLIS STREET RACER

FORMAT: **DREAMCAST** DEVELOPER: **BIZARRE CREATIONS**



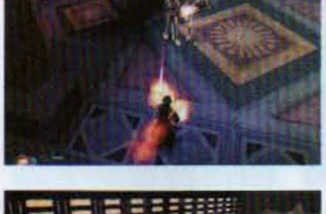


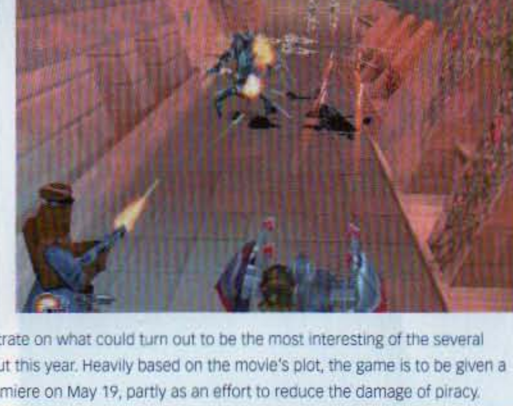


Just as this issue went to press, an **Edge** correspondent reported back from the official unveiling of *Metropolis Street Racer* (previously known as *Metropolis*) in Liverpool. As these shots reveal, the collision of Bizarre's technical prowess and the design skills of Sega producer Kats Sato (*Sonic R, Outrunners, Clockwork Knight*) has borne considerable fruit. Attention to detail is stunning: over 32,000 stills were used to help replicate the game's San Francisco, Tokyo and London settings, and apparently it's possible to see the 20-plus cars' brake callipers working through their alloys. Wow.

STAR WARS: EPISODE I THE PHANTOM MENACE

FORMAT: **PC/PLAYSTATION** DEVELOPER: **LUCASARTS**



With the racing game taken care of (see opposite), LucasArts can concentrate on what could turn out to be the most interesting of the several 'Episode One' movie tie-ins the company is no doubt planning to pump out this year. Heavily based on the movie's plot, the game is to be given a simultaneous global release by Activision soon after the US cinematic premiere on May 19, partly as an effort to reduce the damage of piracy.

ARMORINES

FORMAT: **NINTENDO 64** DEVELOPER: **PROBE**

Following up its previous N64 titles *Forsaken* and *Extreme G*, UK-based developer Probe has borrowed the *Turok 2* graphics engine from sister company Iguana US to create *Armorines*. Set in Siberia, the game has you battling through waves of insectoid enemies to save humanity in a race against time. As you'd expect, there's a fourplayer mode, too.











URBAN CHAOS

FORMAT: **PC** DEVELOPER: **MUCKY FOOT**



Complete freedom of movement in a gritty post-millennial environment is the promise of Mucky Foot's *Urban Chaos*. The first offering from the ex-Bullfrog crew allows players to choose between a streetwise female or tough male. Combat is based around classic beat 'em ups, although, as is the vogue, stealth will be as important as brawn. Spatial awareness seems likely to be a crucial factor for avoiding trouble, too, as platform-style action is rumoured.















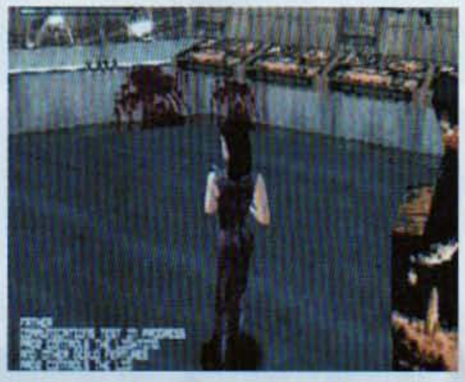
ALIEN RESURRECTION

FORMAT: **PLAYSTATION** DEVELOPER: **ARGONAUT**

Heavily supported by publisher Fox Interactive, Argonaut's better-late-than-never movie license has no excuse other than to at least look like the film. Throughout the production schedules of the game and film, the Argonaut team has been given unprecedented access to footage, scripts and other materials. Judging by these shots, *Resurrection* has captured the dark feel of its source.







SOUL REAVER

While PlayStation reviewable code is still non-existent (Eidos claims it's due at the beginning of May), here's a screenshot of the PC version to keep you up to date with Crystal Dynamics' intriguingly morbid project. And, if release schedules are to be believed (a proposition filled with danger), PC owners will be slipping between the material and spectral realms but a week after their PS-owning friends get hold of copies towards the end of May.



EVIL ZONE

Coming from Japanese developer Yukes (and published here by Titus), *Evil Zone* (originally known as *Eretzaju*) is a manga-influenced, projectile-based 3D fighter for the PlayStation. Ten combatants fight using a multitude of weapons and outrageous, visually intensive special attacks. Six playing modes are available and combatants can choose to fight in any of the 11 settings offered. Out in June.

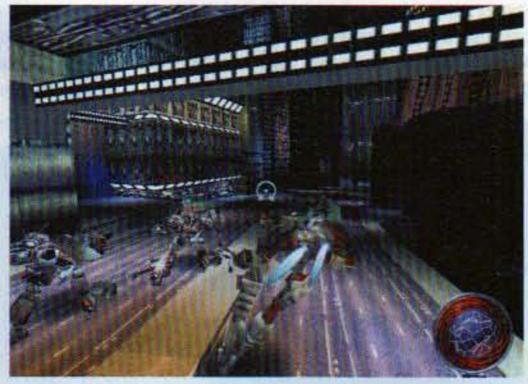


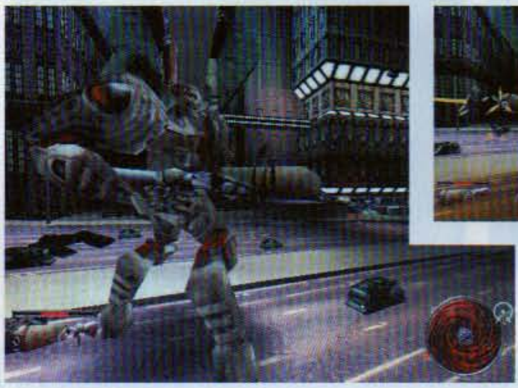


SLAVE ZERO

FORMAT: **PC** DEVELOPER: **ACCOLADE**











It's astonishing how much difference a month can make. When **Edge** last saw Accolade's offering featuring big robots battling amid a futuristic city, the whole project still looked very much like it did in **E**69's Alphas. These latest shots show a much improved level of detail and more ambitious use of textures. Who knows what another month may bring...

TA KINGDOMS

FORMAT: **PC** DEVELOPER: **CAVEDOG**









With the next generation of RTS games suffering from slippage, Cavedog is working hard balancing the four different races that will be battling it out in *TA: Kingdoms*. Named Earth, Wind, Fire and Water, each possesses different characteristics related to its element. Another development from the original sees two types of resources to covet – mana and the mysterious margrium.

ABOMINATION

FORMAT: PC DEVELOPER: **HOT HOUSE**

Combining realtime tactical strategy and a cooperative core, *Abomination* pits a team of bio-hardened marines against the evil Brood. The campaign mode enables four players to complete the singleplayer plot, with the game saved on all participating PCs. Any players can host further games. The more visceral pleasures of competitive and deathmatch modes are also supported.







DARKSTONE

Delphine's stylised RPG continues to blossom as deeper dungeons and monsters are revealed. Although, with 32 levels to battle through, there are bound to be plenty of as-yet-unseen creatures and locations to experience ingame. The automatic quest generator should hopefully boost the replay value as well. While the PC version promises to be stunning, though, squeezing the game into PlayStation-sized morsels would appear to be a thankless task.



RALLY MASTERS

FORMAT: **PC/PLAYSTATION/NINTENDO 64** DEVELOPER: **DIGITAL ILLUSIONS**









You're looking at the first PlayStation screenshots of Sweden-based Digital Illusions' ambitious rally venture. As mentioned in last month's preview, although forced to display the polygonal action at a lower res, the team's technical expertise has ensured PS owners have a version which remains satisfyingly focused on the tracks left by its 3D-accelerated PC cousin.

V-RALLY CHAMPIONSHIP EDITION 2

FORMAT: **PS** DEVELOPER: **INFOGRAMES**

As recompense for not being able to bring you as many images of different cars in last month's *V-Rally 2* Prescreen as would have been ideal, this new selection should give you a better idea of the variety of throaty contraptions just itching to be thrown around a bundle of variously surfaced tracks.











OFFICIAL F1 RACING FORMAT: PC DEV: VIDEO SYSTEM

Having recently acquired the illustrious FIA licence, allowing it to publish Formula One titles featuring real drivers, genuine cars and authentically named circuits, Eidos has swiftly taken advantage of its privileged position by snapping up what is essentially Video System's PC (PS version follows later in the year) interpretation of its very impressive N64 racer. Review in **E**72.









KYOKUSHIN KARATE FORMAT: PS DEVELOPER: BANDAI

Some of you may remember *Budokan* on the Mega Drive. But, for those that don't, Yadda's title was one of the very few attempts at producing a realism-influenced beat 'em up focusing on a variety of martial arts. This Bandai effort sets its sights on just one – karate – but the concept of reality-based combat remains as you train your fighter in order to enter world tournaments.









TOTAL AIR WAR

FORMAT: **PC** DEVELOPER: **DID**











Ten dynamic campaigns, over 22,000 targets and 5,000 named cities, realtime tactical mission planning, cooperative multiplaying, improved polygons, true 3D clouds, enhanced realism, a custom air-to-air combat editor, context-sensitive music and a 350-page manual. DID's sequel to the highly acclaimed *F-22 ADF* is a comprehensive beast.

CROC 2

FORMAT: **PLAYSTATION** DEVELOPER: **ARGONAUT**



Argonaut returns with the sequel to its million-selling, kid-friendly, cute crocodile-starring, 3D PlayStation platformer. As previously, things look technically accomplished with a very stable, solid-looking environment, and character design remains as strong as ever – the 19-strong team is certainly making Sony's 32bit machine work hard. It may initially look suspiciously similar to the original, but aspects such as alternative level routes could improve the action significantly.















DESCENT III

FORMAT: PC DEVELOPER: **INTERPLAY**

Interplay's third instalment in this intriguingly popular series continues its steady progression towards finished status, as these recent shots attest. What they will undoubtedly fail to convey, however, is the fluidity apparent when changing between the game's two 3D engines – one controlling the indoor sections and the other charged with generating the outdoor equivalents.







EAGLE ONE

FORMAT: **PLAYSTATION** DEVELOPER: **GLASS GHOST**

Developed using a 32bit-friendly version of its high-end Icarus engine, Glass Ghost's *Eagle One* is best described as 'True Lies' in videogame form. The gameplay mixes flight-sim physics with arcade action. The plot itself is simple enough, though. With the Hawaiian islands overrun by terrorists, you and your Harrier jump jet must save the world. Bonus levels are unlocked by fancy flying, and the love interest is supplied by a female agent trapped behind enemy lines.







GRAN TURISMO 2

In its day, *Gran Turismo* revolutionised the way the world looked at racing games. While its successor is unlikely to achieve that same feat, it's destined to make quite an entrance











Time restrictions impeded Polyphony from including the range of vehicles it wished for in the original *Gran Turismo*. No such problems this time, though



The game's structure now allows you to decide which category to race your car in – it may then require a certain amount of modifications

Format: **PlayStation**

Publisher: **SCEI**

Developer: **Polyphony Digital Inc.**

Release: **September**

Origin: **Japan**

Few people could have accurately predicted *Gran Turismo*'s phenomenal success. Yes, it's a superlative simulation-influenced racing game, still very much in a class of its own, which redefined what could be achieved within the driving genre as well as making every other car game developer have to work a lot harder in order to get noticed. This alone is a very good thing, since a depressing number of developers have a habit of targeting popular videogaming categories and releasing tired, under-programmed, poorly designed products in the hope that their content will ride the wave and succeed.

But 6.2 million copies worldwide is a staggering amount of black discs, regardless of how high the quality of a title. Indeed, Kazunori Yamauchi, the game's producer, will be the first to tell you how surprised he's been with *GT*'s popularity, particularly as he'd originally developed it mainly for the Japanese market.

A sequel was therefore inevitable. And since **Edge** last visited Polyphony's Tokyo-based premises for an exclusive look at the game some four months ago, a few more details have emerged. The anticipated figure of 400 cars prevails, and while Ferrari and Porsche may have ended up on the cutting-room floor due to licensing restrictions, the selection remains likely to be the most exciting and well-chosen ever to grace a driving game. The emphasis is very much on sportscars rather than the supercars usually found in so many racing games, but the selection should cater for all tastes, however demanding.

In addition to the rally, sportscar and GT competition, there is now a drag-racing mode for anyone solely concerned with the acceleration and torque values of their tuned machines. And while *GT2* does not include dragster-type vehicles, US muscle cars will make things a little more authentic should you find that racing down a



New categories of racing may feature second time around, but transforming your car into a fully fledged GT sportscar remains as one of the many options







Expect the already much-lauded dynamics of the original *GT* to be improved upon; Polyphony is focusing on making them more realistic

quarter-mile stretch of tarmac isn't entirely representative of a Mini Cooper's true abilities.

The structure, so superbly implemented in the original, has also been revised and looks as revolutionary as its predecessor. Gone are the different classes, to be replaced with a model closer to reality: after buying your vehicle from the relevant garage, you must decide which

Polyphony is paying particular attention to the **dynamics and the AI** to improve **the relationship between you and the opponents** on track

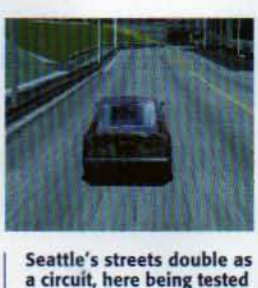
category of motorsport you wish to compete in. Regardless of your choice, the apposite tune-up options need to be obtained before lining your car up on the grid, so if you feel like rallying your Peugeot 106, it'll need modifying to suit the rugged nature of that particular sport. You're free to purchase any car and enter any category, so long as the model is appropriate for that type of racing. It's little use, for example, trying to modify a tarmac-loving Mercedes CLK to run in mud.

Other changes include around 60 licence tests, but these caused a few headaches in the original so the team plans to implement a system to cater for all the Ukyo Katayamas out there (although the structure is yet to be decided).

What has been finalised, however, are the tracks. As previously revealed, Rome, Tahiti, Seattle and the Côte d'Azur form part of the 20 circuits offered in *GT2*, but so does a track set in Colorado's Pikes Peak area and Laguna Seca Raceway in California, one of the premier motorsporting venues in the US (and the only licensed track in the game). According to Yamauchi, the disproportionate number of fictitious courses allows the team to maximise the potential of the graphics engine.

The improvements are more than just cosmetic, of course. Most of the game's mechanics are to be enhanced (for instance, the introduction of limited slip-differentials for the cars is just one parameter for better dynamics), but Polyphony is paying particular attention to the physics and the AI so as to improve the relationship between you and the other opponents on the track.

That should give other racing game developers something to think about.





Seattle's streets double as a circuit, here being tested out by a classic '70s-style Datsun 240Z (above)





As it seems to be the only way to get US players interested in racing games, cars do jump this time. But only if it's appropriate

DEAD OR ALIVE 2

The first incarnation of Tecmo's beat 'em up is remembered as much for the jiggling of female physiques as for fighting prowess. So what new moves can the sequel offer?











The graphical quality of *Dead or Alive 2* made it one of the most striking games on show at TGS. The growth of level size has given the team the opportunity to be inspired by other videogames – witness this '*Zelda*-like' waterfall (right)



Producer Tomonobu Itagaki is playing up *DOA2*'s action aspects

With the beat 'em fraternity split into *Street Fighter*, *Tekken* and *Virtua Fighter* factions, it has always been hard for new additions to muscle in. But recent games such as *Power Stone* and *Ehrgeiz* show that innovation is possible. Back in '97, Tecmo added sex to the violence with *Dead or Alive*. Although it possessed ideas that took it beyond *Virtua Fighter*-clone status, most interest focused on the overly buxom characters. Its infamous 'jiggle' option took breast animation to new levels.

Still, with both the Saturn and PlayStation releases well regarded, few were surprised when Tecmo decided to make a sequel. The 40-strong development team, consisting of veterans of *DOA*, has been working on the title since September. And, as is becoming standard for high-end arcade titles, its visual opulence is expected to be supported by multiple Naomi architecture.

Presented in video form at TGS, *Dead Or Alive 2* was one of the most striking games on display. "I wanted to return to a more primitive and good-looking concept," laughs producer **Tomonobu Itagaki**, "so our basic concept was sex and violence."

Addressing one of the criticisms of the original, Itagaki-san promises that the finished game will have more characters than most other 3D fighting games. He has also beefed up the plot structure. Driven by realtime cut-scenes, this follows the story of main character Kasumi and

> "I wanted to return to a **more primitive and good-looking** concept, so our basic concept was **sex and violence**" Tomonobu Itagaki

Format: **Coin-op/Dreamcast**
Publisher: **Sega**
Developer: **Tecmo**
Release: **TBA**
Origin: **Japan**



In keeping with the original title, Tecmo has continued to develop the concept of explosive 'danger zones'. This forces players to be aware of positioning within the ring. Each level is now also split into upper and lower stages, providing the opportunity to throw opponents over the edge (top right)



The female form is still a vital part of *Dead Or Alive 2*'s attraction

her sister Ayane. As before, all female fighters are well endowed in the mammary department. "Visually, we have included some sexy animations," Itagaki-san explains ominously. Breasts aside, however, where the original impressed with detailed backgrounds, this has been improved upon. The use of danger zones, in particular, subtly altered the balance of the gameplay compared to the 'ring outs' of *Virtua Fighter*. Instead of causing immediate KOs, danger zones, when triggered, blow fighters into the air. Damage, while major, is not fatal. This forces players to be aware of their position.

"We implemented other systems related to the danger zones," explains Itagaki-san. "We wanted to make the game look more real so we increased the effects and introduced new character animations during the explosions."

Taking the concept of interaction with the scenery one step further, each stage is now split over two levels. Characters can be thrown over the edge as well as suffering danger-zone damage. For some of these, Itagaki-san took inspiration from games other than just beat 'em ups. "I was so impressed by *Zelda* that I included a waterfall stage," he says. Devotees of Link's adventure will notice distinct similarities when *DOA2* characters tumble down the waterfall.

Another of the innovations that the original offered was a three-button control system. Kick and punch was as standard, but instead of the 'block' of *Virtua Fighter*, *DOA* introduced the 'hold' concept to fighting games. This forced players to be more aggressive, allowing a wide range of countering moves rather than a simple defensive approach. "I wanted to keep a three-button system because good playability is very important," says Itagaki-san. The evade option debuted on *Virtua Fighter 3* does not find favour. "A fighting game has to be an offensive type of game," he states. "*Virtua Fighter 3* is a defence-type of game. Players alternate defence and attack; then position, defence, defence and defence again. *Dead or Alive 2* is offence, offence, offence," he smiles. *DOA2* borrows the tag-team concept from Capcom, enabling players to switch between characters at any point of the battle.

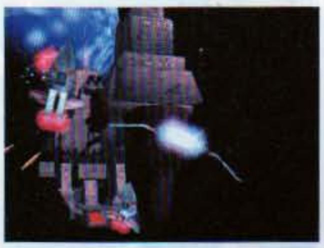
As for weapon-based fighting games such as *Power Stone*, Itagaki-san is yet to be convinced. "It is a difficult genre. They are not becoming hit titles," he argues. Equally forthright about the general drop in popularity of fighting games, he adds: "I believe they were too numerous. People were fed up with the genre." The future is clear, though. "Fighting games will become simpler and more powerful. I believe that we will arrive back at our origin – linear fighting games."



The four health bars reveal this to be a screenshot from the new tag-team option. Players can switch between their fighters at any point

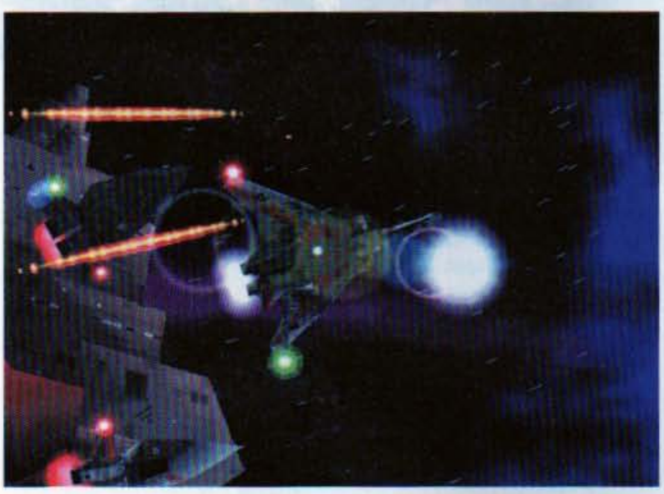
JUMP RUNNER

Glass Ghost's roots may be firmly planted in flight sims, but this space-based combat and trading game is aiming to prove that a developer can change its spots











Although combat is exciting, players will need to trade cargo to upgrade weaponry

The *Jump Runner* universe is home to a varied selection of different gangs and empires. Ethan Fall comes under attack from a capital ship and two diamond-shaped fighters belonging to the Brethren, the galaxy's dominant warlords (above)

Format: **PC/Dreamcast**

Publisher: **TBA**

Developer: **Glass Ghost**

Release: **December**

Origin: **UK**

If a week is a long time in politics, 12 months should be a lifetime for a developer in flux. It is, however, a situation **Ian Baverstock**, co-founder of flight sim developer Simis, has become all too familiar with since negotiating a management buyback from Eidos last year. "We went back to being independent in March '98. It seems like ages ago," he recalls with a wry smile. But that was just the beginning of the story. Clearly, if Simis was to survive on its own, it would have to reconsider its core philosophy. As many developers find to their peril, relying on a single style of game can leave a company financially vulnerable. For the newly independent Simis something new was needed.

A year on and two studios now exist where there was once one. Simis continues as before, specialising in PC-based sims – under the same roof, but a world apart is Glass Ghost. This is the studio Baverstock and co-director Jonathan Newth believe will take the company to the next level. And, specifically, the game they hope will get them there is *Jump Runner*, a space-based combat and trading game. It's no surprise then that *Jump Runner* is described to **Edge** in grand terms. Obvious comparisons such as *Elite* and *Privateer* are trumped by *Grand Theft Auto*, *Dungeon Keeper* and *Final Fantasy*. Perhaps the closest comparison, though, will be *Freelancer*, Chris Roberts' long-term project. With this in mind, it seems somehow appropriate that *Jump Runner*'s lead designer is also called Chris Roberts. Maybe the folks over at Digital Anvil (see **E**70) should start paying attention...

Set hundreds of years into the future, the eponymous jump runner, Ethan Fall, is a small-





Missions and intelligence can be gathered from the 120 locations scattered throughout the universe















Essentially, the game mixes the adrenaline-rush of space combat with the capitalism of smuggling. The storyline, which follows the exploits of jump runner Ethan Fall, is driven by high levels of characterisation

time smuggler. The game opens with him accepting a mission to carry a mysterious package. Before he can learn its destination, however, his contact is assassinated. He flees to a ship and escapes. A cut-scene then shows six bounty hunters being briefed to recover the package. Acting as end-of-level bosses, they continue to track Ethan throughout the game.

Players **travel around sprawling galaxies**, accepting **bread-and-butter missions** to build up resources

This is typical of the way the plot is structured. Players travel around sprawling galaxies, accepting bread-and-butter missions to build up resources. Unlike *Privateer*, you can own more than one ship and swap weapons. Progress is strictly controlled by plot missions, however, and clues to the significance of the mysterious package are slowly uncovered *en route*.

One of the underlying features that links the freeform and the scripted elements of the game is the notoriety index. The more audacious Ethan's criminal behaviour, the more aware the authorities become of him. When the index reaches a certain level, he has to join one of the three criminal gangs to survive, the objective being to rise through the ranks. And an updated hate list informs you of the aggressiveness of the various gangs that Ethan encounters.

Each level is determined by the success or failure of previous missions. For example, if you have ripped off some valuable cargo from one gang, you shouldn't get into too much trouble with their arch rivals.

Another important issue has been accessibility. As **James Brooksby**, project director, explains, "*Jump Runner* is for Dreamcast and PC, so it has to be designed so that anybody can pick it up." With this in mind, the team has introduced high levels of characterisation. "As a player, you need to feel you are somebody," he comments. "You need to feel that the reason a character looks like he does is because he's a gang member." All the trading is driven by interacting with characters animated over prerendered backgrounds. "We wanted to get away from mission briefings and introduce the story elements of something like *Final Fantasy*," Brooksby continues.

Having been in development since August, *Jump Runner* may only be halfway complete, but a small-scale multiplayer universe has already been successfully tested. The final version will support a persistent Internet environment for PC and, potentially, Dreamcast users as well. But for Baverstock, *Jump Runner* is more than just another game: "Glass Ghost is focused on games, and *Jump Runner* is our premier game. It will be the one to show off what we can do."







This sleek fighter (top) was one of the first ships designed. Bulky carriers and capital ships will also feature

TOKYO HIGHWAY BATTLE

Not all driving games are designed to be realistic. Genki's latest is all about one skill – overtaking – as rival racers line up to do battle lap after gruelling lap







Located somewhere between a beat 'em up and realistic racing game, *Tokyo Highway Battle* requires some ballsy overtaking manoeuvres to take the title



The ebb and flow of each battle is measured by 'spirit' gauges. Every battle won results in prize money to upgrade cars or individual parts

Format: **Dreamcast**

Publisher: **Sega**

Developer: **Genki**

Release: **May**

Origin: **Japan**

Sega may be struggling in the west, but the amount of Japanese thirdparty Dreamcast support remains one of its trump cards. And while big names such as Capcom and Namco grab much of the attention, smaller companies are also aggressively positioning themselves in this new market. One of the early winners of such manoeuvring has been Genki. To date, its most impressive exploit is the *Virtua Fighter 3tb* port. This remains one of the better Dreamcast games, despite being a launch title. Sega was obviously pleased with the result, too, as it has handed Genki the *Virtua Striker 2* conversion.

More importantly for Genki's own reputation is the news it is working on a Dreamcast port of its popular (in Japan) PlayStation series *Shutokou Battle* (Shutokou is a toll motorway into Tokyo, hence the English title *Tokyo Highway Battle*). Although it looks and handles like a regular racing game, *Highway Battle* belongs to the more specialised racing-battle category. Instead of the objective being a realistic racing experience, this game revolves around one skill – overtaking.

This philosophy is evident throughout. To start the game proper, players need to find a rival car to race or 'battle'. The state of each battle is monitored by a 'spirit point' gauge. This rises and falls depending on the distance between the vehicles, but Genki promises that other driving parameters will affect the gauge. Overtaking completes each individual battle and the game ends after all the cars have been defeated. The Quest mode, for example, features more than 150 different rival cars.

Other game modes include the *Gran Turismo*-inspired Quick Race mode. This has a time attack-style environment in which players race the customised cars they have built and tuned. Winning battles generates extra money to buy new cars and parts. Twenty car models will be available, each with upgradable parts such as tyres and spoilers.

Far from complete, there was a version of *Tokyo Highway Battle* running at the Tokyo Game Show. There is obviously a lot of work still to be done, particularly on the background detailing. And while it looked good, game speed was slow. Hopefully, Genki's prior Dreamcast experience will help speed up the process.







Twenty cars will be available in the game, but Genki remains tight-lipped about which specific manufacturers and models will feature

BRAVEHEART

While Hollywood captured big box-office success with its 'romantic' representation of Scottish history, Red Lemon has secured the license for its own take on tartan terror



Red Lemon is trying to appeal to both hardcore strategy gamers and the mainstream by pitching *Braveheart*'s battles in 3D









Controlled through a point-and-click system, campaigns can be waged against your enemies with warriors, battering rams and siege catapults

Travelling north from sunny Bath to the wilds of downtown Glasgow, **Edge** gradually becomes aware that Mel Gibson's 'patriotic' Scots epic, 'Braveheart', is taken rather seriously in the land of tartan. Arriving at Red Lemon's decidedly untraditional office (complete with fibreglass 'think-tanks' in the lobby), it soon becomes clear that the company is more than a little proud of its newly adapted license (courtesy of Eidos' marketing department).

Originally titled *Tartan Army*, *Braveheart* is a curious collision of traditional 2D resource management and crowd-pleasing 3D battles. Assuming the role of leader for one of 16 Scottish clans, including that of William Wallace (star of Gibson's film), you must guide your people – and eventually your country – to freedom.

Dragging the game's co-designer **Andy Findlay** (also a Red Lemon co-founder) into the nearest think-tank, **Edge** sought to uncover *Braveheart*'s intricacies. "We wanted to have a game which has depth," explains Findlay, "and gives the player some kind of longterm satisfaction, but also to make it mainstream."

Certainly, the 'Braveheart' license guarantees the game a mass market appeal, and adapting *Tartan Army* wasn't a problem, says Findlay. "It was quite easy, to be honest. The game ran pretty much along the lines of the movie anyway. The characters from the film actually represented the leader-type characters we'd already designed, so it was fairly painless to slot in Wallace."

Although you're confronted by 12 option screens with which to govern your people, novice gamers can opt for a much-simplified system. Overview screens embrace everything from the inter-relationships of clans, to construction and weapon manufacturing. "We've approached it with this kind of automated management system," illustrates Findlay. "You can click on auto and just aim it towards the three points of the triangle – military, people, or trade."

With its 3D battles (complete with all the required graphical trickery), adaptive resource management system, and powerfully emotive license, Red Lemon's *Braveheart* is an interesting endeavour. If nothing else, Findlay and clan owe it to Scotland to succeed.





You're given the option of either controlling the game's features right down to the finest detail, or simply setting the system to automatic

Format: **PC**
Publisher: **Eidos**
Developer: **Red Lemon**
Release: **June**
Origin: **UK**

SILENT BOMBER

A simple 'pick up and play' game, Bandai's latest thirdperson shooter is a return to core values for PlayStation owners: simply keep running, pick out those targets and get bombing



One of the most telling features of *Silent Bomber* is the scale of the end-of-level bosses. The gravity liquid power-up (above) proves highly effective






A three-quarter view is just one of the factors that makes the game so easy and enjoyable to play. Frantic speed and intuitive controls are others

One of the surprise hits of the Tokyo Game Show, Bandai's *Silent Bomber* could be a breath of fresh air for PlayStation enthusiasts. With many games becoming over-sophisticated, the thirdperson shooter is a return to the days of simple gameplay. Based around mechanical characters such as the Gundam anime concept Bandai specialises in, *Silent Bomber* is comparable to Konami's old school *Contra* series. Thankfully, though, it is far superior to the last two PlayStation versions of that title.

The most important aspect of the game is the way its control style promotes the overall pace. Movement is controlled via the analogue stick, while the X button triggers jumping. But it is the weapon control that really impresses. The square button operates the default bomb option. This activates a visible blue 'cone' which locks on to any enemies in range. Once locked on, up to two bombs can be thrown from distance.




Each level is completed by the destruction of defined targets. Big laser cannons are just one example

Other offensive weapon pick-ups include napalm, paralysis liquid (which knocks out electrical units for a period of time), and the strangely named gravity liquid. These are cycled using the L1 shoulder button but cannot be thrown and must be placed next to targets.

Destroying targets, ranging from generators to mighty space cannons, completes each level. Of course, all are well defended by missile launchers, robot guards and force fields. And if the colourful prerendered scenery is reminiscent of the glory days of coin-ops, the quality of the bosses confirms the charms of *Silent Bomber*.

With several months development ahead, it will be interesting to see how the game evolves. Following its TGS success, it could become a high-profile title for Bandai. The only criticism at this stage concerns the ease of play and some clumsy camera angles. But when a game has the potential to be as enjoyable as *Silent Bomber*, such gripes might be overcome.

Format: **PlayStation**

Publisher: **Bandai**

Developer: **In-house**

Release: **TBA**

Origin: **Japan**



Omikron: The Nomad Soul

Edge Eurostars across the Channel to see Quantic Dream's recent work on its ambitious parallel universe, and discovers that the world of Phaenon really is your oyster

In *Omikron*, sliders (personal computerised vehicles) know exactly where they're supposed to go after you've supplied them with the required destination. Which is more than can be said for **Edge**'s taxi, which has spent the last half-hour looking for the address of Parisian developer Quantic Dream. And despite assurances to the contrary, **Edge** is becoming increasingly convinced that the driver is going round in circles, a theory somewhat supported by the fact that France's capital can't possibly have three Eiffel Towers...

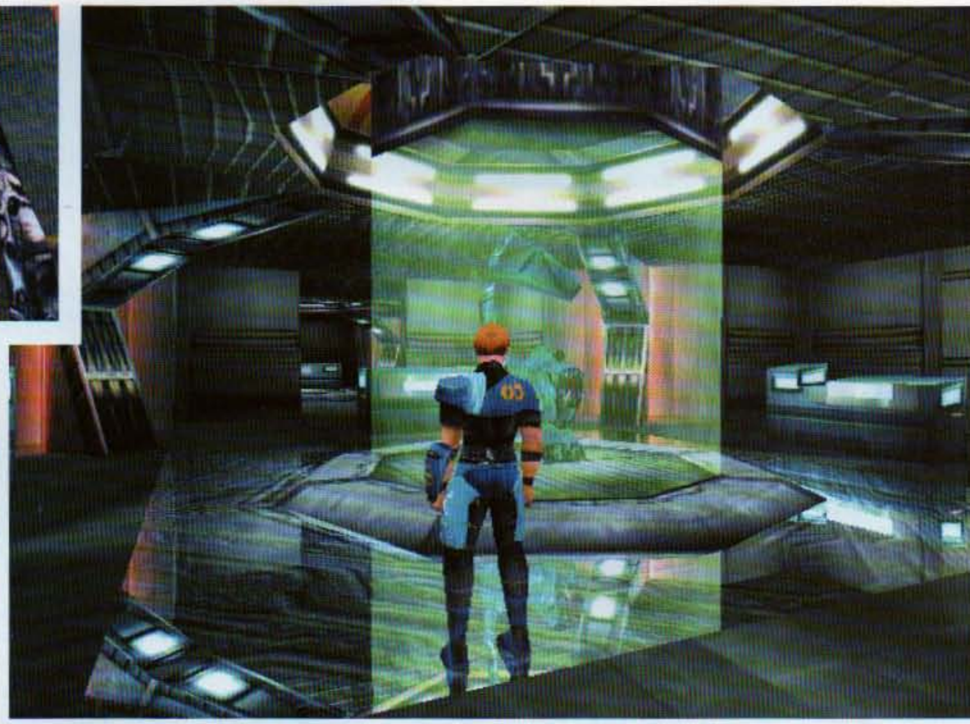
When the address is supposedly found, things don't look promising. Faced with a modern residential block, **Edge** suspects the taxi driver may have strategically bailed out after the fare reached a hefty amount, abandoning what he assumed were odd tourists in one of Paris' labyrinthine suburbs. For a few seconds this seems an entirely plausible explanation, but a close inspection of the building's intercom system reveals a familiar tenant. According to the list of names, Quantic Dream lives in an apartment on the first floor. In fact, it occupies two spacious

Format: **PlayStation/PC** (PC version shown)
Publisher: **Eidos**
Developer: **Quantic Dream**
Release: **Summer**
Origin: **France**





The complex storyline is refined enough to handle more mature themes (above) without casting the usual exploitative, sordid overtones



residences, with the majority of its 35-odd employees using a plethora of rooms. On the landing, a full-size Babyfoot table (an activity sadly much under-practised in the UK) greets visitors – and requires pulling out into the corridor whenever the urge proves too strong. **Edge** wouldn't go so far as to call the conditions cramped, rather cosy. But if Quantic Dream plans to continue growing, it better start looking for another floor...

Never-ending story

Having somehow resisted the lure of an afternoon of Babyfoot, **Edge** settles down with **David Cage**, head of Quantic Dream as well as creator and designer of *Omikron*. Veteran readers may remember the game's original appearance in **Edge** (see **E**47) nearly two years ago, and while the advances in 3D PC technology have allowed the team to radically improve the cosmetic side of the experience, the plot remains the same. "There's no big change in the scenario," explains Cage. "We spent more than a year just writing the story so we don't want to change it now."

Edge won't spoil the game by divulging revelatory plot elements, but suffice it to say that as you start the game you have little idea of who you are exactly, and what tasks await you. Having 'arrived' as police officer Kay'l in Omikron, one of several cities on Phaenon (a planet in a parallel universe), your only instruction is to find your apartment. You embark on a journey that not only takes you across Phaenon's contrasting environments but also delivers many surprises. It may be more Roddenberry than Asimov, but *Omikron's* narrative is still better than the majority of games currently on the market and, as such, is very welcome.

The plot is not the only aspect differentiating *Omikron* from the rest of the field, however. "There are several reasons for that," states Cage. "The first is that it's entirely in realtime 3D, and it's a truly huge environment – it's probably going to be *the* biggest realtime 3D game. We have four different cities, and in these you have passers-by, vehicles, and you can enter any building at any time... we've worked hard on having a real city – with restaurants, apartments, shops, cars,

It may be more Roddenberry than Asimov, but *Omikron's* narrative is still better than the majority of games currently on the market and, as such, is very welcome









Your quest in *Omikron* will see you travelling to Phaenon's four cities as well as several outdoor locations. The visual style is well integrated throughout









Quantic Dream is particularly proud of its inclusion of realtime facial motion capture for the four hours of dialogue shared among the game's characters

parks, a police station and a red light district. It's been a huge process just to make sure that behind each door there's something there. It's not just a setting, it's a real building with something inside – people living there, for example."

There's more, of course. "The second reason is that we're giving the player complete freedom," Cage continues. "Not only can you walk around, but you can talk to people, use objects, guns, fight with your bare hands, use vehicles and magic spells. There are many different types of gameplay, and I'd say that in a certain way each one is a game. The last thing we want to do is to have cheap games – cheap arcade sections within an adventure game – it's been done before. We want to have real arcade sections within a real adventure game – that's our biggest challenge. So we spend a lot of time balancing elements, trying to find the fun in the arcade parts."

Naturally, there's a third reason, possibly the most revolutionary of the lot. One of the core concepts of the game is the process of virtual reincarnation. Yes, *Messiah* is promising a similar notion but, in fairness, *Omikron* was doing it first (at least, Quantic Dream announced it before Shiny). Cage explains: "The soul of the player is within a body. Once the body dies the soul is reincarnated into the body of the first person who touches the corpse. At the moment we have more than 30 bodies you can reincarnate during the game and each has different skills and characteristics – so you can be a very sexy girl or you can be a tough guy, for example."

"We have more than 30 bodies you can reincarnate during the game and each has different skills and characteristics – so you can be a very sexy girl or a tough guy"



Citing *Zelda* as one of the main inspirations, the team has paid special attention to the 3D camera, with effective consequences

Reincarnation spell

The concept has evolved somewhat since **Edge** last saw the game. Cage explains, "Our initial idea was that when you died you changed your body, but we thought that it was so much fun to have this ability that we've decided to give the player more opportunity to do that." So now, quite early in the game you find a reincarnation spell. And as you explore your surroundings and meet other characters, you can decide to take over their body and continue your quest within this new frame, provided you have enough points to perform the spell. This opens up entirely new gameplay opportunities and these haven't passed Quantic Dream by. "At some points in the story you need to use this reincarnation



Although not shown, the PS version naturally suffers from lower resolution (despite being in 'hi-res'), fewer civilians and a shorter fogging distance







A limited inventory system allows you to carry up to 20 items with you at all times



In order to avoid players getting lost in *Omikron*'s expansive realm, a stream of short-term goals make sure you always know what to do next











Quantic Dream's main aim is to convey a genuine sense of life in all of the game's many locations. As such, its inhabitants wander the streets, shop, drink in bars, eat in restaurants and sleep in their flats

spell to do something specific," says Cage. "For example, when you're in the library only a scientist can access a secret level so the only way to get to this level is to take over the scientist's body." There are less linear benefits as well: "Later on you need to interrogate someone – there are several ways, but the best means of getting information from him is to incarnate a sexy girl because you have more attributes to persuade him with," grins Cage. While this offers huge potential for the player, it does cause a few design headaches. "Your actions will have consequences, so if you do something good or bad your actions will catch up with you," explains Cage. "That's a big challenge for the storyline writing, because you need to think about what happens whatever the player does."

The *Doom* view

Another major alteration affects the shooting action sequences. When Cage last spoke to **Edge** (at ECTS) he may have sworn that Quantic Dream would never do a firstperson game due to his propensity for feeling the effects of motion sickness, but he must have found a cure as said sequences are now played in *Doom*-style view. The controls are *Doom*-esque, too (totally on keys), as the view runs along the x-axis.

Nevertheless, Quantic Dream is understandably content with what it has achieved so far. The city does indeed exude a real-life feel and there are countless classy, cinematic touches. Cage attributes this to having the right utensils for the job. "We've spent a lot of time over the last two years working on tools because one of our concepts was that the gameplay must be in the hands of the designer and not of the programmers," he says. "And we didn't want them using up all their time just making small changes, so we've developed tools that allow game designers to change what we want to change. We're particularly proud of our IAM (Intelligent Adventure Manager), a scripting tool for all the adventure elements in the game. It's quite important because the final result of the game depends a lot on how the tools are working and how the whole process is done."

The musical aspect hasn't been neglected either. Eidos has signed a world-renowned musician, although **Edge** is forbidden to reveal his identity. "I was a musician for ten years before making games, and the last thing I wanted in my first game was to have cheap techno music," proclaims Cage. "As *Omikron* takes place in a parallel dimension, we wanted to have music from a parallel dimension. We wanted someone ready to be really involved, and we've been incredibly surprised to see that someone as famous as this could be so crazy about the game." So impressed was this musician, in fact, that he offered to do an entire concept album based on the story. He will also play a role in the game. "He'll have concerts in bars, so you'll get a flyer with the address and you can take your slider, go to the bar and see the concert," enthuses Cage. "If you like the song you can go into a shop, buy the record and then go home and listen to it."

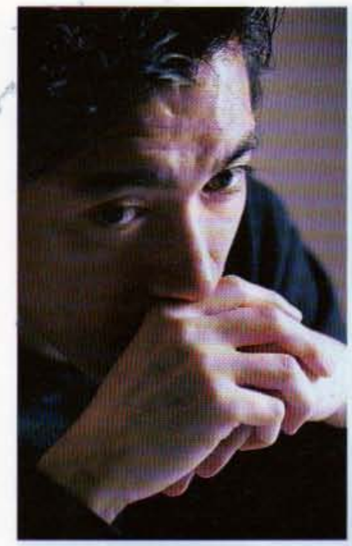
Yes, it *is* an ambitious project. "Our goal at Quantic Dream is to develop things that haven't been done before – we just hope to be successful this way," says Cage. If achieved, it should seriously put Quantic Dream on the map. And that should at least make life easier for Parisian taxi drivers.



DinoCrisis

Having already set the console gaming world aflame with his tales of the undead walking the earth, the producer of the *Resident Evil* series is scaling up...





Shinji Mikami, the man behind the *Resident Evil* series, takes a new, yet in some respects very familiar, trip down the horror game avenue









Many of the enemies faced by the player will appear on a Raptor-esque scale, while others will make a rather more significant impact (main). Whatever the case, pure, old-fashioned gunplay should prove a suitable cure

As the Tokyo Game Show throbs with activity across three halls of the Makuhari Messe convention centre, **Edge** has retired to the more laid-back environment of Capcom's business suite upstairs. Ensconced within the safety of this room, furnished with six or seven tables around which Japanese industry types suck on cigarettes, Capcom delegates are willing to demonstrate *Dino Crisis*, the pseudo-sequel to the *Resident Evil* series, having offered only glimpses of it via spooling video in the show proper.

Shinji Mikami, producer of this new title and the previous *Res Evil* games, seems almost reluctant to be here, as if meeting the press isn't really his bag. After **Edge**'s cameraman has the necessary set up work out of the way, though, Mikami-san gets the opportunity to pick up a joypad and demonstrate his latest work, and he suddenly seems to brighten up.

"I love dinosaurs because they're big, strong, really violent, and really fearsome-looking," he enthuses as he fiddles with a test version of his latest project.

Biting wit

Having moved away from the fantastical realms of the undead in the *Resident Evil* series, Mikami-san and his team made a conscious decision to produce something more real with *Dino Crisis* – despite these new 'real' elements having not existed for millions of years.

"Producing the dinosaur animation was interesting because we don't know for sure how they moved in real life," says Mikami-san. "So I had to use my imagination. We started out with drawings, which we scanned, and then used animation tools to see how we could make the dinosaurs move. As well as our imagination, though, we looked at the movement of many real animals. Have you seen the dinosaurs biting the player yet?"

With this, Mikami-san flips through various debug menu options to bring up a scene depicting a stand-off between the player's character, a female special agent, and a Raptor-esque adversary. Playing straight into the dinosaur's terrifying claws, he might as well lie the character down on an oversized dinner plate and cover her with gravy. The dinosaur wastes no time chowing down, hoisting her into its maw and thrashing her about. "With things like this, we actually referred to how crocodiles and dogs behave, and looked at their biting action," says Mikami-san. It's certainly an effective – and unflinching – approach.

"In the *Resident Evil* series the zombies made you feel fear slowly, but in *Dino Crisis* the enemies are a lot quicker and more intelligent... they can even open doors"

Same old story

In storyline terms, like the *Resident Evil* games, *Dino Crisis* is as hackneyed as they come. A scientist, who was believed dead

Format: **PlayStation**

Publisher: **Capcom**

Developer: **In-house**

Release: **TBA**

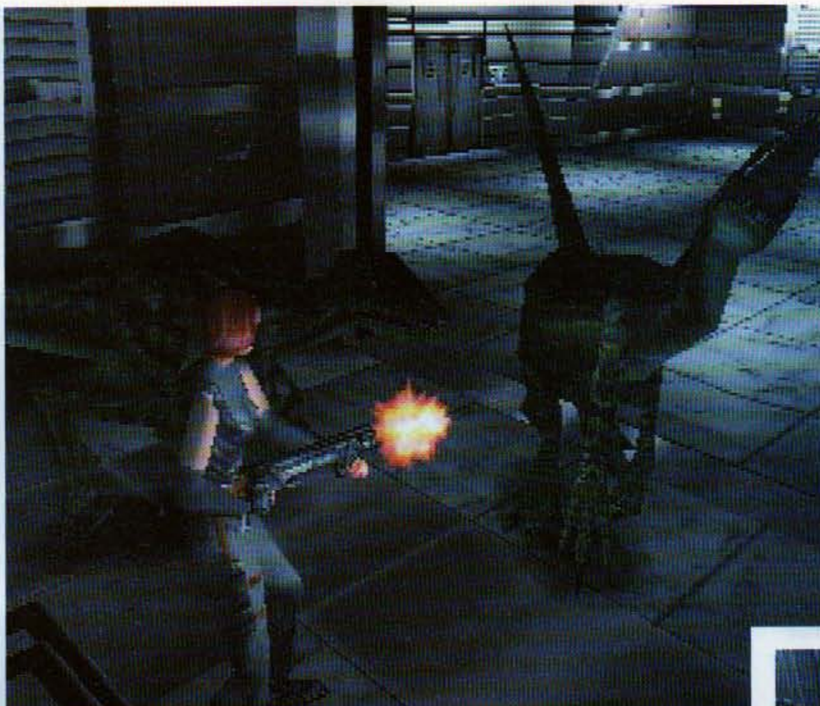
Origin: **Japan**







Four main characters will appear throughout the game, and interaction with them will be crucial (top). Three other characters will also appear, but their demise will be more or less imminent



Blasting dinosaurs at close range brings to mind the zombie-killing sprees of the *Res Evil* series, but *Dino Crisis* promises to be a much less pedestrian experience









A new twist comes into play when you're attacked unwittingly – it's possible to actually drop your weapon, leaving you stranded

following an ill-conceived, world-changing experiment, has recently been discovered working at a military research centre on a small island. You assume the role of a special agent and infiltrate the base with a special ops team. It's not long before the results of the scientist's experiments become apparent: the place has been overrun by a variety of dinosaurs.

Giving the enemies an extra helping hand in their pursuit of the player is the way *Dino Crisis* handles injuries. The dinosaurs can smell blood and will track them down



Photography: Hiroki Izumi

Looking towards the potential of new hardware? Oh yes

The scene is set, then, for something very obviously inspired by 'The Lost World', although Mikami-san also cites 'Aliens', with its "little creatures running around," as an influence.

"I want to create a panic horror game," says Mikami-san as another dinosaur encounter unfolds onscreen. Having furthered the horror genre with his last two projects, he seems intent on breaking it down into sub-genres, this particular one being more upfront than his successful zombie showcases. "In the *Resident Evil* series, the zombies made you feel fear *slowly*," he elaborates, "but in *Dino Crisis* the enemies are a lot quicker and they're more intelligent. As soon as you leave a room you cannot say that the danger has gone, because the dinosaurs can even open doors. And they will chase you. Unlike *Resident Evil*, this game is more a matter of constant fright."

Giving the enemies an extra helping hand in their pursuit of the player is the way *Dino Crisis* handles injuries, as Mikami-san explains: "When you get bitten by a dinosaur, you're going to bleed. And you have to look at this problem in two steps – it's not just a question of picking up a medikit. First, you have to stop the bleeding, then you can heal. While you're bleeding, though, your blood will stain the floor, and the dinosaurs can smell this blood and will use it to track you down."

Browned off

Technically, *Dino Crisis* uses an original 3D engine not entirely unlike that of *Metal Gear Solid*, if not as immediately impressive at this point in the title's development. The game also seems to have an over-abundance of the colour brown, resulting in some unmemorable scenery, although the animation at least matches up to the exceptional standards set with the *Res Evil* series.

Mikami-san opted for a realtime engine because he "wanted to challenge the theories of representing backgrounds." He won't be drawn on whether or not he believes realtime 3D will make *Dino Crisis* feel even closer to horror movies than the *Resident Evil* games were, but, by means of a section of the game which shows the action directly from a rapidly attacking dinosaur's point of view as it bounds across the tops of packing crates, he reveals the sort of cinematic device that will be used to keep the tension levels crackling – the sort that simply would not have been possible using prerendered scenery.

As **Edge** is given a guided tour of the game's locales it's clear that, although *Dino Crisis* is set on an open island, most of the action will take place indoors – or at least in confined spaces. "It's the same concept as the *Resident Evil* series," reveals Mikami-san. "In order to actually build the scariness I think it's best to have enclosed environments."








Capcom claims that the playing area of *Dino Crisis* will be similar to that of the *Resident Evil* games. While there's a degree of outdoors-based action (one memorable scene features a character being hoisted aloft by a pterodactyl), the bulk of the gameplay will occur within claustrophobic environments

Powerful weapons

Typically, the finished game will offer a range of increasingly powerful weaponry, but in its efforts to bring *Dino Crisis* closer to reality Capcom has refined the simple up/level/down gun-aiming mechanics of the *Evil* series. It's now possible to cradle a shotgun at waist level, bank-robber style, for quick, if rather scattershot, cartridge unloading, or hold it with butt to shoulder, sniper style, to maximise accuracy at the cost of speed.

It's possible to cradle a shotgun at waist level, bank-robber style, for quick, if rather scattershot, cartridge unloading, or hold it with butt to shoulder, sniper style, to maximise accuracy

As far as other series-defining enhancements go, it seems that Mikami-san has had to actually scale down some of his ambitions for the title. "Well, I wanted to include really complex AI for the dinosaurs," he explains, ruefully. "I wanted to give each one individual AI to make them much smarter so that they could understand the condition of the player better. I wanted them to be smart enough so that, when chasing the player, they could actually take a different route in order to set up an ambush. The visuals – the dinosaur animations, for example – and audio aren't quite how I originally envisioned them, either. I was interested in the sounds the dinosaurs make when they cry out, and what appears in the game isn't what I had predicted."

It's obvious that this particular gaming visionary isn't packing up his take on the shock genre with *Dino Crisis*, though, and his passion has no doubt been fired by new technology. While his contemporaries deliver kids' games filled with cute characters bouncing around technicolour worlds, Mikami-san's territory remains far darker. "I want to express how I can use characters to frighten or panic people," he says. "And it's impossible to think about that for a young age group."



"I think it would be a good idea for the player to die if he does not stop the bleeding," says Mikami-san, "but that may not be practical"



Photography: Nick Wilson

Format: **PC**

Publisher: **Mindscape**

Developer: **Eagle Dynamics**

Release: **June**

Origin: **Russia**

Producer Nick Grey (foreground), director Igor Tishin (centre) and owner Neil Soane (behind)

EagleDynamics

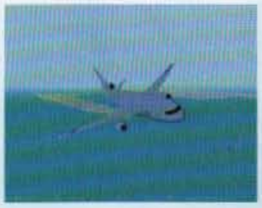
Russia is perhaps one of the last places people would look for a cutting-edge development studio, but Edge discovered that the ex-communist regime is full of surprises...

It doesn't take long to realise things work slightly differently in Russia. Five minutes into a drive from Moscow Sheremettevo airport to the Aerostar hotel, **Edge**'s cab is pulled over by traffic police. The driver wasn't speeding and there's no problem with the car's mechanical state (although, like every other car in Russia it is 20 years old and rusting to pieces). No, the law enforcers simply extort $10 from the cabbie, and he's free to go. *Flanker 2.0* producer **Neil Soane**, sitting next to **Edge** in the backseat, doesn't look particularly worried. Instead, he looks at his watch and tuts, "not again." This, it seems, is a regular occurrence.

Despite the constant promise of reform, corruption is rife in Russia. It's an existence, born out of desperation. With the collapse of communism in the late-'80s and the introduction of a decidedly unsteady free-market economy, the Rouble nose-dived in value, plunging much of the Russian population into poverty and crippling the previously iron-clad regime. And, of course, with capitalism came organised crime. According to **Nick Grey**, the owner of Eagle Dynamics, Russian Mafia activity is endemic – if you set up a company in Moscow, within days you will be visited by one or more of the local Mafia groups offering 'protection'. Just a week before **Edge**'s visit to Eagle, the company was











There are around 35 different aircraft in the game, all of which are accurately modelled on real-life planes. The flight physics are also equally authentic

"There are more engineers per capita here than anywhere else in the world, but these guys have nothing to do. Many move to the US and end up driving taxis around" Nick Grey

approached by two burly, well-dressed men who claimed to be representatives from a 'strength system'. "They are very polite about it," states Grey matter-of-factly, as though being doorstepped by gangsters ranked alongside a visit from a bunch of Jehovah's Witnesses.

Business as usual

The Eagle Dynamics offices, part of an ugly '60s industrial building, are symbolic of the way businesses have to operate here. Behind the company's five-inch-thick steel door sits an armed security guard, who – for the five hours **Edge** is in the building – doesn't so much as get up from his seat. There are also several 'guard' dogs wandering around the grounds. Eagle's director, **Igor Tishin**, was bitten by one and had to take antibiotics for 90 days. "There are a lot of rabid dogs around here," he shrugs casually.

Once past the guard, walking into Eagle's offices is like walking into the control room at NASA (or should that be Russian Space Agency, RKA…). Lots of incredibly intelligent people huddle over computer monitors surrounded by heavy tomes on aerodynamics, physics and aircraft design. This is not your usual development studio. Many of the Eagle team come from the government design bureaus – elite engineering studios made up of the most talented pupils from Russia's schools. These people have been trained for several years in special government universities specifically to take up military positions – designing aircraft, weapons, etc. With the collapse of the Soviet regime, however, many of those military positions ceased to exist. As Grey points out, "Russia is in deep financial and political crisis, but there is a lot of talent. There are more engineers per capita here than anywhere else in the world, but these guys have nothing to do. Many move to the US and end up driving taxis around. There is such a big pool of expertise, and no companies are using it."

Eagle, though, certainly seems to be making the most of what Russia has to offer. *Flanker 2.0*, sequel to the moderately successful 1996 *Flanker SU-27* title, has been redesigned and re-coded from the ground up as a totally authentic, incredibly detailed flight simulator. The game, set over a 500x400km block of Russian landscape, gives the player around 35 different types of aircraft to include in missions, and around 20 different totally authentic weapons systems (you know they're authentic because the guy who designed them was a colonel in the Russian army specialising in weapons systems). In *Flanker 2.0* every bomb and missile behaves realistically; different warheads give different kill probabilities, and, on top of this, the collision detection is minutely accurate: "If a shell misses you by 20 inches, it misses you," states Grey. "We deal with exact points, not fields of collision." This is serious physics.

Attention to detail

The same clinical attention to detail is extended to the scenery. The landscape is based on military satellite data and electronic maps, making it more or less identical to the real-life locations. As Grey points out, "We've gone for quality rather than quantity in terms of landscape. We wanted to create a target-rich environment with lots of detail. It's important to be able to blow stuff up, to fly in between buildings and to get an impression of speed. It's better to have a lot of detail in a small area than to try to create the whole world and make it completely empty." Consequently, there are well in excess of 100,000 3D objects strewn across the grasslands,

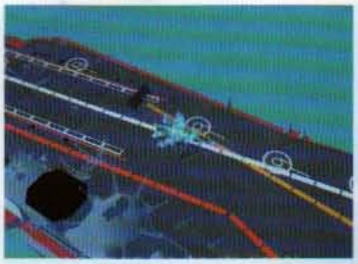




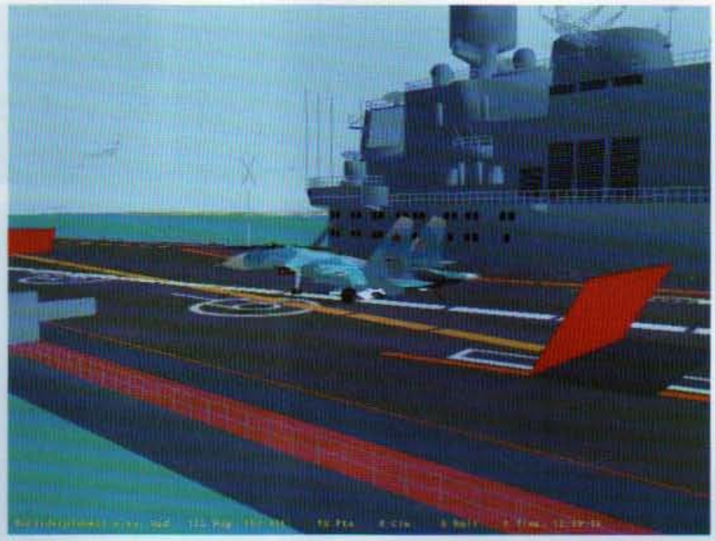
The decidedly unglamorous Eagle Dynamics HQ (top). A keyboard adapted for the Russian alphabet (above)



Nick Grey points out the many battleship models in the game









towns and villages in *Flanker 2.0*, and most of them can be destroyed. If you fly past a house you don't like the look of, you can fly by again, identify it as a target, and fire a missile at it. It's every psychotic propellerhead's wet dream.

Most impressive, though, is the sheer visual clarity. The landscapes look amazing, with an incredible wealth of terrain types, buildings, roads and structures jostling for space – and there is very little slowdown when you zoom over at very low altitude, practically skimming the roofs of houses. This is thanks to an excellent 3D engine written in a highly optimised assembler. "We can put 100 active objects into the player's vicinity at any one time without slowdown," claims Tishin. "What really slows the game are the complex weapon systems, but this is the fault of the PC hardware, not our software."

But Eagle is working with, rather than ignoring, hardware shortfalls. The team has designed its code to be highly scaleable so that lower spec systems can still achieve this incredible, smooth speed (at the expense of graphical detail, however). Speed and realistic flight physics are certainly the key guiding forces behind the project, and the latest developments in PC graphics – the introduction of AGP and more powerful graphics cards – are prompting even greater stretches towards realism – as Tishin confirms: "Even now, we are changing the graphics engine to keep up with technology." Eagle is determined not to get left behind.

Mission control

As for the game structure, things have been made as open as possible. There is a totally customisable mission system which enables players to choose their aircraft, weapons, type of mission (escort, intercept, reconnaissance, etc) and enemy targets, and then fly right into the action. To add to the realism, every enemy craft uses densely complicated AI routines, so they receive radar data, and react to it in realtime, continually asking questions about their environment, weighing up risks and looking for launch possibilities. Players can also set enemy skill levels to keep the challenge relative to their own experience.

For those who want a more structured game, however, *Flanker 2* also contains a highly flexible campaign mode. Here, when players attempt a mission, their performance dictates what the next phase of the campaign will involve. So if you're asked to blow up a battleship, and you fail, the next phase will have you going back, with two or three computer-controlled planes by your side as back up. If you succeed, you'll move on to the next objective. According to Grey, there are around 100 pre-scripted variations for each phase, which means the game is radically different each time you play, without resorting to a mathematically complex and framerate-slowing 'dynamic' system (which generates things for the player to see and do on the fly).

Importantly, though, Eagle has recognised that not every gamer wants to



All enemy and allied craft have their own mission objectives. Plus, they employ sophisticated AI routines to achieve them



Collectively, the Eagle team has a higher average age than most. Many of the team have spent years working for the military, designing real warcraft

The Eagle has landed

Eagle Dynamics was set up in 1989 by British businessman and flight enthusiast Nick Grey, whose diverse remit also includes selling Lear Jets in Eastern Europe and managing Duxford Air Museum near Cambridge. The team was originally part of a small aviation design company Grey set up in Russia, and their task was to write CAD software for use by the aircraft designers. However, Grey felt that the software, which took several years to perfect, would make a great basis for a flight sim game, and so *Flanker 1.0* went into development.

After the game was released in 1996, almost the entire Eagle outfit was poached by Microsoft and moved out to the US. Consequently, Grey employed a brand new team for the sequel from a diverse selection of professions – one programmer designed landing algorithms for the Russian 'Buran' space shuttle, others came from government design bureaus, and Igor Tishin, who joined the company back in 1991, is a Doctor of Science specialising in missiles (specifically nozzles for missile boosters). It's certainly a well-qualified collective.

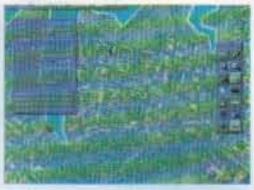




The team plans its schedule on a massive blackboard (top). The armed guard (above) protects the team from any unwanted visitors









The mission editor (top right) enables players to define their own tasks

prove his mettle as a real pilot – some just want to have fun. *Flanker 2.0*, then, comes with a scaleable arcade mode in which players can turn off all collision detection so the plane actually bounces along the ground without exploding. This option also includes completely automatic weapon selection – as simple as pulling the trigger at a target; the computer decides what weapon to use and preps it accordingly. This could well prove the vital linchpin in securing a mass audience for what is, in essence, a military-level simulator.

World War Web

Network play has become an essential part of the flight sim genre (especially in the US), and it certainly hasn't been neglected here. Eagle already has a 16-player LAN mode up and running, but hopes to extend that to support up to 32 players. The team's long-term ambition is to create an homogeneous 'digital combat environment' either over LAN or the Internet which players can enter when they like and take part in multiplayer campaigns. "Our ultimate aim is to get all the titles coming out of Mindscape's simulation group talking to each other over LAN or the Net," explains Grey, "but for that you need a common graphical standard. You also need to filter all the information into each player's mission, so everyone is relevant – everyone's actions have an impact on the game environment."

In short, Eagle is imagining a sustained online world – like *Ultima Online* or *Meridian 59* – where players with the appropriate software – be it a tank, flight, or battleship simulation – can enter at any time, link up with a platoon and get involved in a military campaign. It's a fascinating idea, but one that's a few years away yet. "We have to make *Flanker* a commercial title – a *Falcon* beater – before any of this can take place," admits Grey.

After finishing at Eagle, Igor Tishin and Nick Grey take **Edge** on a tour of Moscow, an incredibly beautiful city jammed with imposing imperial architecture and those strange Russian Orthodox churches. Grey claims that a previous Tsar of Russia chose orthodox Christianity as his country's religion because it was the only one that allowed drinking. True to stereotype, drinking is pretty much a way of life here – Vodka, the nation's poison of choice, is almost thought of as a medicinal substance. Not all stereotypes are accurate, though – Moscow citizens enjoy a vibrant, diverse nightlife, shattering the common image of a dour and depressing country.

As for Eagle, although *Flanker 2.0* is currently taking up most of its time, it is constantly planning ahead. Not only does it have ambitious network plans, but the next *Flanker* title – *Flanker SU-25* – is already in development, and features more concentration on ground attack missions. Before that, Nick Grey confidently predicts that *Flanker 2.0* will set a world standard for flight simulation. Having seen the game in action, and witnessed the incredibly detailed aircraft models winding over elaborate landscapes at nauseating speeds, **Edge** finds it hard to disagree. Indeed, **Edge** is *afraid* to disagree. There is an armed guard on the door, after all.



Selling games in Russia

Although by western European standards, the videogames market in Russia is pretty small, there is a demand for new software. At the moment, the biggest-selling game in the country is *Counter Action* – a patriotic tank warfare sim which has so far shifted 40,000 copies.

However, as corruption is par for the course here, the process of distributing games as we know it is totally different. For a start, you can more or less forget trying to sell original copies of your games; an official boxed copy of a game retails at around $30 (prohibitively expensive for most Russian gamers) whereas a pirated version will cost around 2 or 3 dollars. Predictably, piracy is rife – there's even a market in Moscow – Garboushka market – bursting at the seams with stalls selling pirated videos, cassettes and videogames, and it is largely tolerated by the authorities.

In such a situation, there is little point in trying to fight against piracy. Instead, companies have to try and work with it. Recently an organisation named Shield has appeared, through which software companies can actually deal with pirates. The latter simply pays a fee to copy a certain number of games, and then distributes them through channels such as Garboushka market. Shield receives a commission from the software publishers and actually manufactures the copies itself, so it can control how many the pirates get their hands on. To paraphrase the famous saying, 'If you can't beat 'em, control 'em.'

TOKYO GAME SHOW

Expectations were high as gamers and press alike flocked to see what ammunition the console giants had to do battle with each other. Ultimately it was a case of handbags at ten paces, with hardly a shot fired in anger



SCEI's austere sign just about sums up the spring '99 Tokyo Game Show, littered as it was with disappointing Dreamcast titles and half-baked PlayStation games: 'There are no demonstrations of the next generation PlayStation at this show'. In a single sentence, Sega's arch rival swept the wind from its own sails.

Sony might as well have offered a return coach back to central Tokyo from the Game Show's capacious location within the Makahari Messe exhibition centre, although it did put on a fine effort for the launch of *Um Jammer Lammy*. Just as telling as the crowd of journos and Otaku gathered before *Lammy's* antics was the game's positioning on the shelves of HMV in Tokyo's Shibuya district – stacked innocuously beside the latest Japanese pop releases, it was abundantly clear how pervasive PlayStation culture has become. Sony would be hard pressed to drop the ball now, although even Nintendo struggled to shift its consumers from Famicom to Super Famicom. Time will tell, of course.

In some respects, the most significant title nestling beneath the expensive and expansive stands at TGS was Namco's Dreamcast conversion of its System 12 coin-op *Soul Calibur*. Boasting hugely improved graphics, if nothing else the game was a statement of intent by the Japanese giant. Sega has to secure the support of major players like Namco if it is to mount a serious challenge on the mass market.



Photography: **Hiroki Izumi**

If one theme typified the spring Tokyo Game Show, it was music. Konami's stand drew the crowds with its BeMani titles, while Sony presented interactive *Um Jammer Lammy* sessions

While the impatient hordes of Otaku found much to sate their hunger, many more discerning visitors were left wondering quite what all the fuss was about. The number of exciting, innovative new titles could be counted on one hand

That said, *Soul Calibur* was playable and slick, which is more than could be said of Capcom's *Bio-Hazard: Code Veronica* for Dreamcast. Several disjointed scenes from the title were included in a special video presentation on the stand of Capcom (which gave pride of place to the superb but apparently underselling *Power Stone*, 9/10 **E**70), complete with animation dragged straight from the PlayStation versions. Shown in the same footage was *Dino Crisis* for Sony's console (see p40), which held more appeal.

Sega's own stand (see over) was only matched in size by Namco's, yet offered rather more to see (the latter bringing a grand total of three games to the show). Visitors to the booth were able to sample Konami's *Air Force Delta* (visually accomplished and previously know as *Flight Shooting* – see **E**68), *Get Bass!* (okay) and *Maken X* (strikingly basic) among others. Pride of place, however, was given to *Shenmue* – which is entirely understandable given its 'Titanic'-like development cost. Several action sections were available for play, although, as one Sega bod was keen to stress, the real value in *Shenmue* lies in experiencing its storyline.

While the impatient hordes of Otaku who flooded onto the show floor found much to sate their hunger (not least from the multitude of merchandise vendors which set up camp on the show's periphery), many more discerning visitors were left wondering quite what all the fuss was about. The number of exciting, innovative new titles on offer could be counted on one hand. The dearth of must-have Dreamcast games was deeply worrying, particularly at an event which should have belonged to Sega. The pressure on those western 1.5-party games to impress has never been greater.

Still, on with the highlights (and lowlights) of the show...







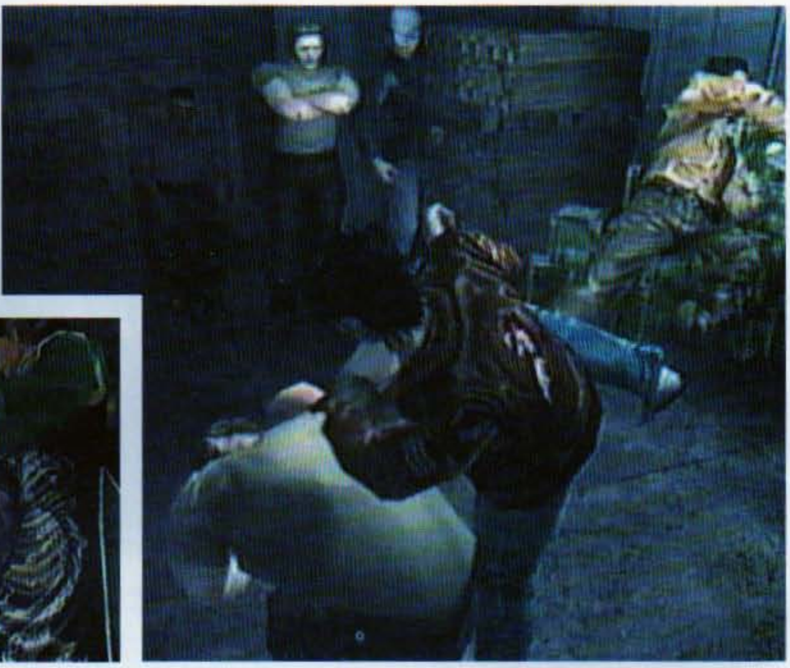


Although Sega had a huge stand (left) and many new Dreamcast games (far left), the populist showgoers were more easily seduced by the new wave of brash, music-driven titles (above)

SHENMUE

By far and away Sega's most important and impressive title at the show was its $20 million epic, *Shenmue*. Publicly playable for the first time, the Yu Suzuki-produced title was perhaps done a disservice by being represented via a handful of game sequences.

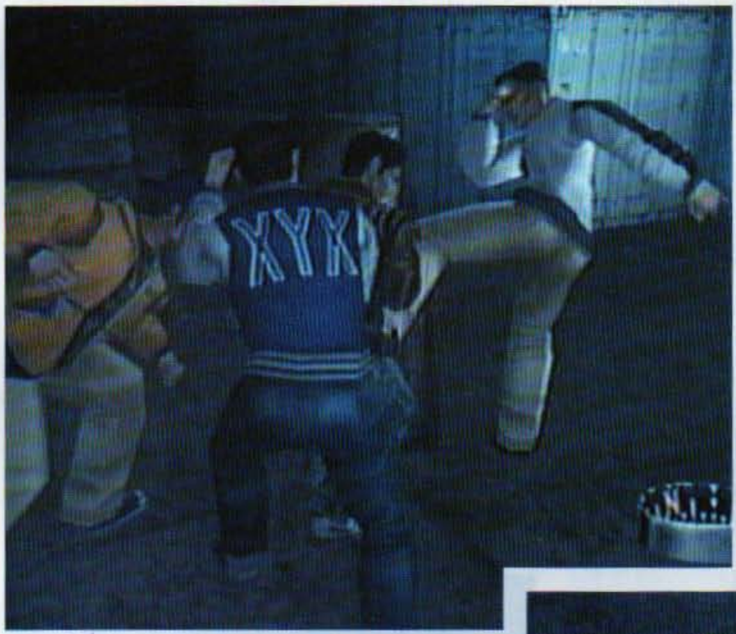
While reasonably interesting from a conceptual standpoint, the notorious QuickTime Events proved worryingly reminiscent of playing infamous laserdisc title *Dragon's Lair*. The realtime fights were more promising, but for a such a plot-driven title, the combat sections will form only a small part of the picture.







Sega's exquisite preproduction work, including statue-like character models, revealed some of the enormous effort that has gone into the creation of *Shenmue*











Platform: **Dreamcast** | Publisher: **Sega** | Developer: **In-house**

SOUL CALIBUR

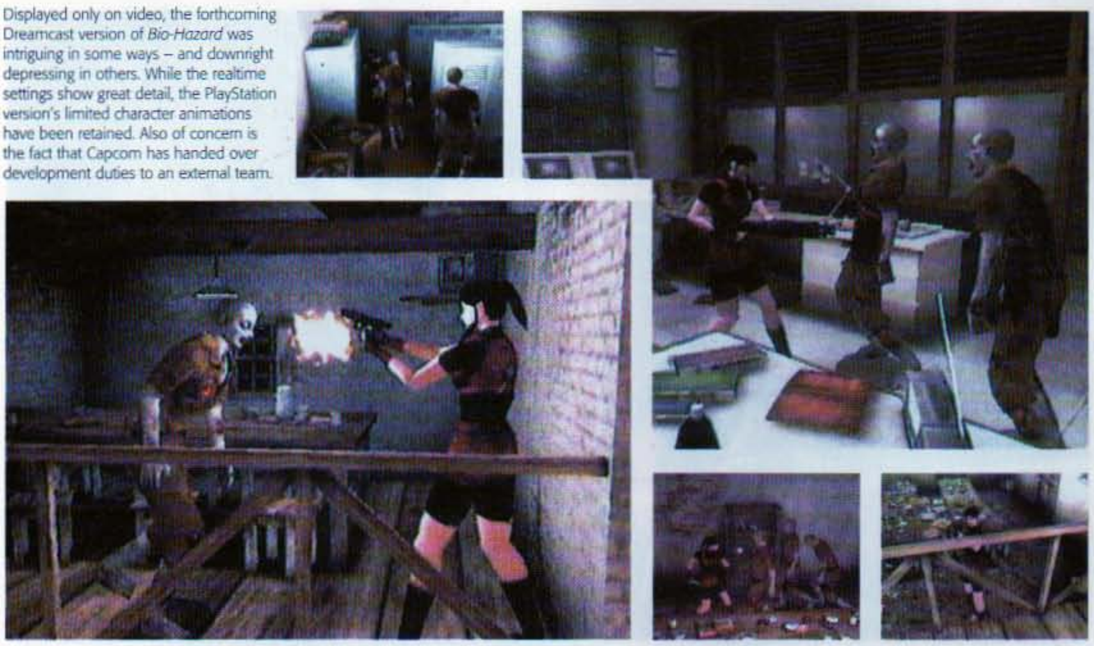
Video stills such as these undersell the low-frequency sonic boom that *Soul Calibur* represents to Dreamcast. Easily dismissed due to the coin-op's second-rank status among the cognoscenti, the title has been hugely reworked and graphically enhanced for Sega's console. That Namco has made that effort is significant in itself. Oh, it plays well, too.



Platform: **Dreamcast** | Publisher: **Namco** | Developer: **In-house**

BIO-HAZARD: CODE VERONICA

Displayed only on video, the forthcoming Dreamcast version of *Bio-Hazard* was intriguing in some ways – and downright depressing in others. While the realtime settings show great detail, the PlayStation version's limited character animations have been retained. Also of concern is the fact that Capcom has handed over development duties to an external team.



Platform: **Dreamcast** | Publisher: **Capcom** | Developer: **Sega**

GUNDAM GAIDEN

Pandering to the ongoing Japanese love affair with giant Mech battles, Bandai has created *Gundam Gaiden* for Dreamcast. While the concept is tried and tested, less could be said of Bandai's preferred control system, which made its game extremely difficult to enjoy. Couple that with a wooden sense of movement, and **Edge**, understandably, was left cold.



Platform: **Dreamcast** | Publisher: **Bandai** | Developer: **In-house**

AIR FORCE DELTA



Previously tagged as the overly descriptive *Flight Shooting*, Konami's *Air Combat* clone drew considerable interest from TGS attendees – not least for being playable with ASCII's odd new Dreamcast flight stick. Seemingly of a higher quality than *Aero Dancing* (see p74), *Air Force Delta*'s military skew is certain to interest shoot 'em up fans.

Platform: **Dreamcast**
Publisher: **Konami**
Developer: **In-house**

BASEBALL TEAM





Let's Make a Baseball Team! was one of the more popular titles on Sega's stand, no doubt due in some part to its super-deformed characters and colourful visuals. A western release seems unlikely.

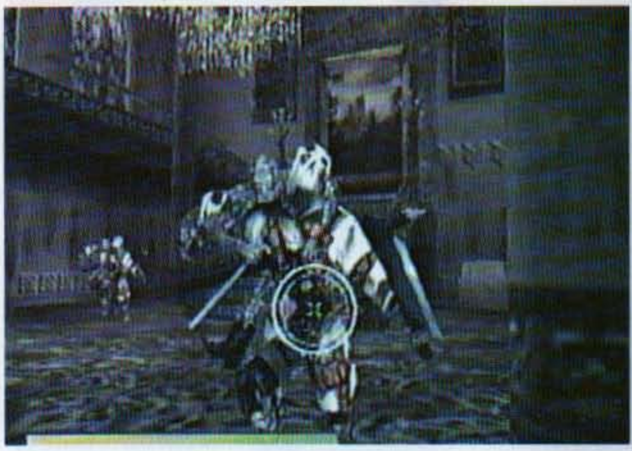
Platform: **Dreamcast**
Publisher: **Sega**
Developer: **In-house**

MAKEN X

Japanese gamers are notoriously disinterested in firstperson titles. The Japanese development community's subsequent lack of experience in creating such games revealed itself in the form of *Maken X*. Unless Atlus deliberately demonstrated a dumbed-down version at the show, the title was artistically strong but simplistic in gameplay terms.











Platform: **Dreamcast** | Publisher: **Atlus** | Developer: **In-house**

HIGHWAY BATTLE







Looking vaguely similar to Konami's 1998 coin-op *Racing Jam*, Genki's *Tokyo Highway Battle* has some way to go before challenging *Gran Turismo* in the dynamics stakes.

Fully previewed on p32, the game's visual prowess is currently marred by a massive decrease in speed when you switch to the exterior viewpoint.

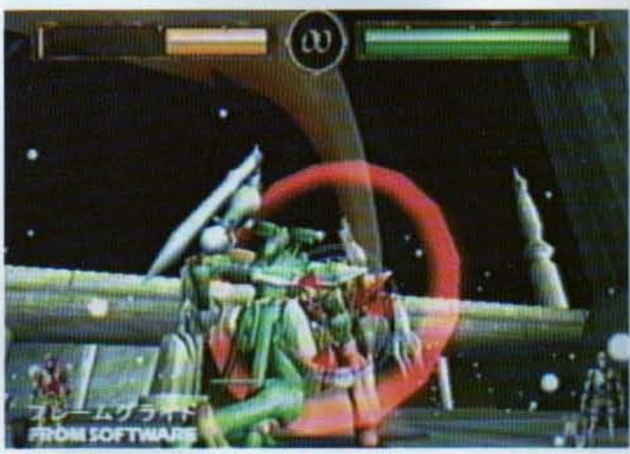
Platform: **Dreamcast**
Publisher: **Genki**
Developer: **In-house**

FRAME GRIDE

Having been responsible for the well-received *Armoured Core* series on the PlayStation, From Software has moved into the vanguard of Dreamcast game development with *Frame Gride*. Significantly, the company's new title makes good use of the Dreamcast modem, and featured on Sega's stand as an example of online gaming's potential.











Platform: **Dreamcast** | Publisher: **From Software** | Developer: **In-house**



The House of the Dead 2: a rare shooter at TGS



Sega's connectivity commitment was heavily sold



Shenmue was given pride of place on Sega's booth

SEAMAN

Ambitious, offbeat Japanese developer Yoot Saito (see **E**67's Dreamcast supplement) is starting to see his plans for artificial sealife title *Seaman* come – amazingly – to fruition. Perhaps more startling was the amount of space Sega dedicated to the title (**Edge** hesitates to call it a game) at TGS.

While nothing was actually playable, someone – somewhere – has enough belief in the potential of Saito-san's creation. It's believed that Sega views *Seaman* as an opportunity to enter new markets.



Platform: **Dreamcast** | Publisher: **Sega** | Developer: **Yoot Saito**

GET BASS!

Coupled with ASCII's dedicated Dreamcast controller, Sega's home conversion of AM3's remarkably addictive coin-op hooked the attention of many passers-by. Although ASCII's fishing stick was never likely to match the arcade cabinet's own force-feedback rod, the Dreamcast version looks extremely close to the original Model 3 iteration.

With fishing games a popular genre in Japan, *Get Bass!* should do well there, but it could prove one custom controller too many for the west.



Platform: **Dreamcast** | Publisher: **Sega** | Developer: **In-house**

D2

Far from appearing as the DC launch title it was once cited to be, Warp's *D2* has now slipped to somewhere around the end of '99. Trailers for the game carry the message that 'Something is under the frozen soil in Canada and now it's awake', but as yet little is known about the gameplay system.

Graphically, *D2* has some truly gross moments, with 'Alien'-esque burstings from human bodies and eyeballs popping out. However, the snow mobile section (below left) seems worryingly poor.



Platform: **Dreamcast** | Publisher: **Sega** | Developer: **Warp**

FOOTBALL TEAM



If Sega Europe can launch on Sep 9 with a football title which matches *Let's Make a Football Team!* in the graphical stakes, then massmarket attention will be assured. It's unclear just how much action *Football Team!* offers – the game allows you to pick the club secretary, which shows management leanings – but it looks the part.

Platform: **Dreamcast**
Publisher: **Sega**
Developer: **In-house**

Densha de Go! 2: one of TGS's most popular titles



Konami's few non-music titles held little interest



The attraction of Square's stand was typically strong



LEGEND OF MANA

Though its precursor, *Seiken Densetsu 3*, did not officially make it to the west, the game which preceded that, the classic SNES action-RPG *Secret of Mana*, did. And that's why this full-blown sequel was one of the hottest TGS titles. The rather lurid graphics may betray the SNES original's elegance, but the gameplay promises to be as thoroughly engrossing.











Platform: **PlayStation**	Publisher: **SquareSoft**	Developer: **In-house**



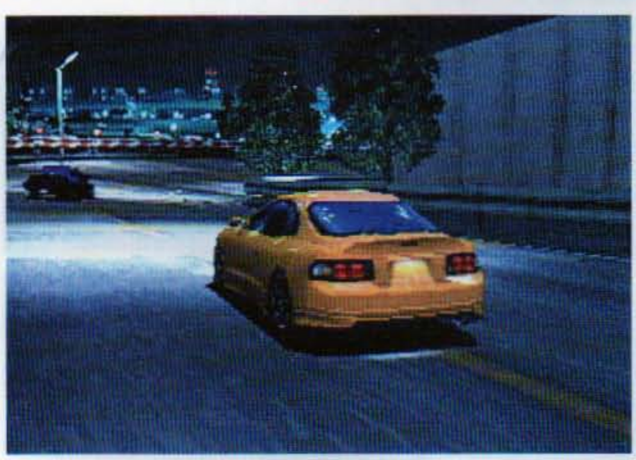
Namco's showing proved rather underwhelming – an unsurprising fact, given the company's full-on commitment to producing titles for the next generation PlayStation, a task that is sapping the reserves of its voluminous banks of design and coding creatives

RACING LAGOON

Pride of place on Square's TGS stand went to *Racing Lagoon*, a 'high-speed driving RPG' (according to the company's promotional materials). The core of the game takes its inspiration from the likes of *Gran Turismo* (right down to the environment-mapped reflections on car bodywork), but myriad embellishments make this more than a simple clone.











Platform: **PlayStation**	Publisher: **SquareSoft**	Developer: **In-house**

Square's booth presented a number of surprises



Capcom, once again, majored on beat 'em up titles



Front Mission 3 was yet another Square PS offering



CHOCOBO RACING

Square presented its new racer in challenge form (the company arranged competitive time trials for four attendees at a time throughout the event), and interest was relatively high. The game offers a bunch of variably talented characters and a selection of track styles over which to race. To call this game a clone of *Mario Kart 64* would be to rather understate the situation – some of the tracks look almost identical at first glance. Ugly pop-up is one of the most visibly clear differences, though.











Platform: **PlayStation** | Publisher: **SquareSoft** | Developer: **In-house**

LORD OF FIST

Mediaworks is hardly a proven name in the gaming world, but its new beat 'em up shows promise, if only because it veers slightly from the well-worn path beaten by the *Tekken*-alikes beloved of so many misguided developers. It sells itself on its multiplayer capabilities: it's possible, using a multitap, to set up simultaneous fourplayer fights. The graphics may be on the basic side, but its concepts are sound.











Platform: **PlayStation** | Publisher: **Mediaworks Inc.** | Developer: **Polygon Magic**



Namco's *Ace Combat 3* proved one of the company's biggest draws, its cutting-edge graphics engine (in effect a tweaked version of *Ridge Racer Type 4*'s guts) representing air-based action in a fashion PlayStation followers found all too seductive

OMEGA BOOST

Despite having failed to blow away attendees of Sony's private software showing in March, Polyphony's 360-degree blaster drew much attention at the show – partly because attendees were forced to form an orderly queue in order to enter the section where the game was being demonstrated. Lively visuals are perhaps the title's biggest draw, but its full-on, no-frills gameplay has appeal, too.











Platform: **PlayStation** | Publisher: **Sony** | Developer: **Polyphony Digital Inc.**

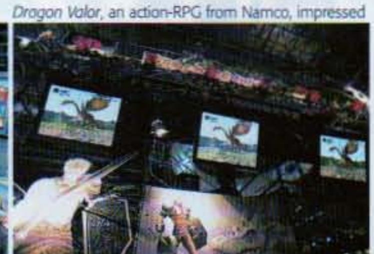
Sony's *Um Jammer Lammy* pulled in hardcore fans

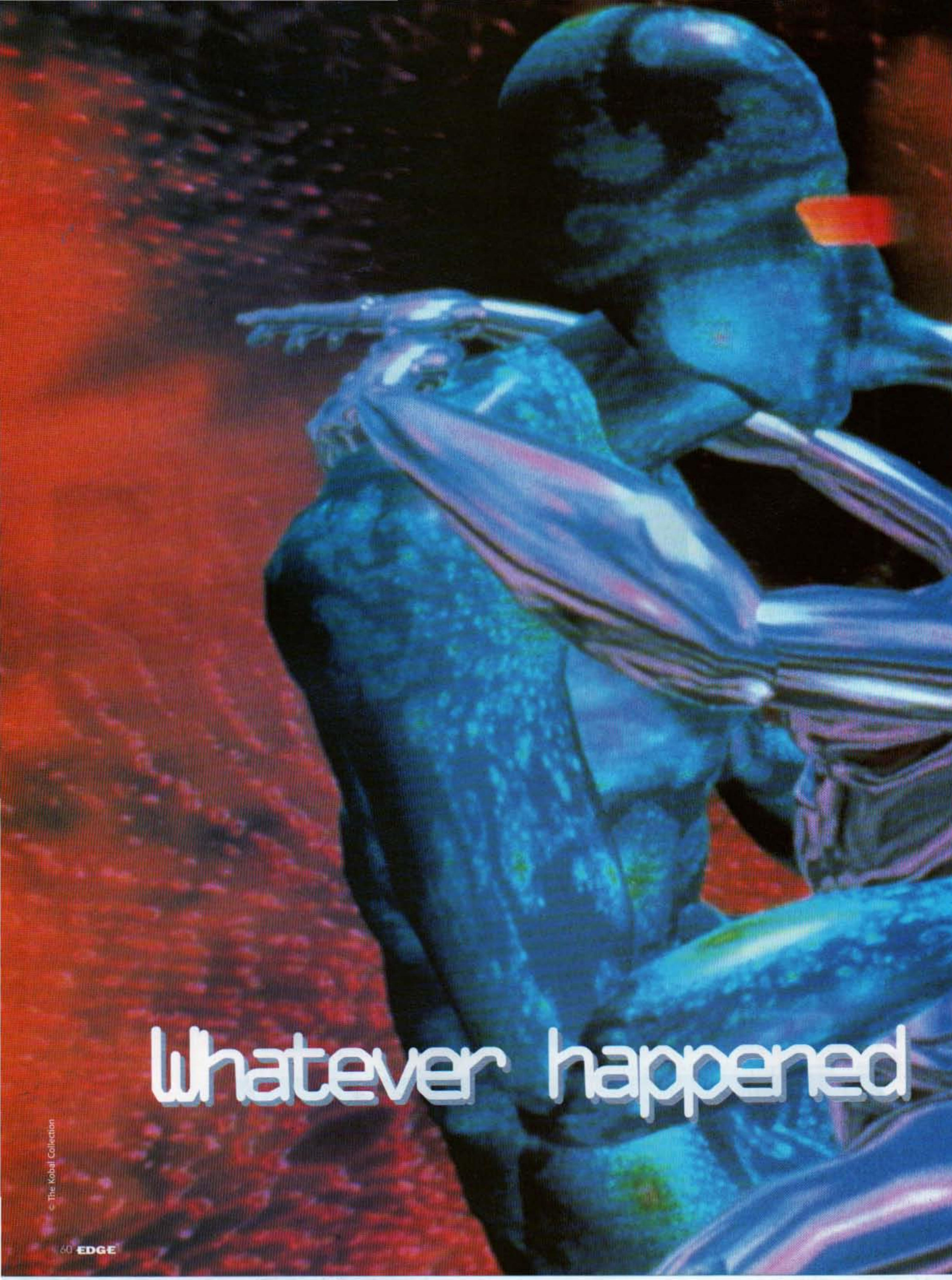


Few things raise an eyebrow at TGS



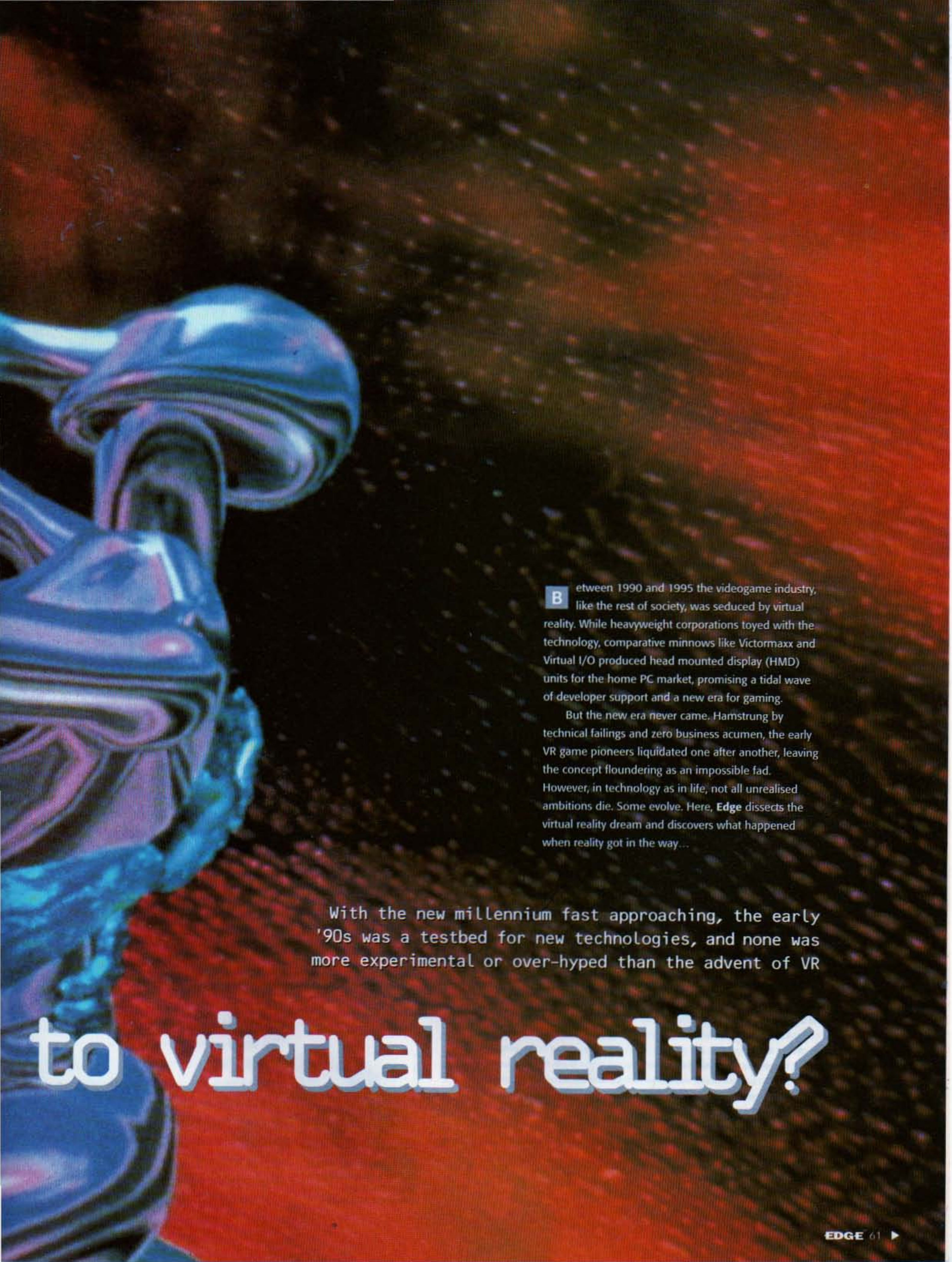
Dragon Valor, an action-RPG from Namco, impressed





Whatever happened

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Between 1990 and 1995 the videogame industry, like the rest of society, was seduced by virtual reality. While heavyweight corporations toyed with the technology, comparative minnows like Victormaxx and Virtual I/O produced head mounted display (HMD) units for the home PC market, promising a tidal wave of developer support and a new era for gaming.

But the new era never came. Hamstrung by technical failings and zero business acumen, the early VR game pioneers liquidated one after another, leaving the concept floundering as an impossible fad. However, in technology as in life, not all unrealised ambitions die. Some evolve. Here, **Edge** dissects the virtual reality dream and discovers what happened when reality got in the way...

With the new millennium fast approaching, the early '90s was a testbed for new technologies, and none was more experimental or over-hyped than the advent of VR

to virtual reality?

Virtual reality is dead

'Virtual reality is an industry on the edge of crossing the magic barrier that separates dreams from commercial reality, yet at the moment it is more reminiscent of the old Wild West in the gold-rush days. Desperate to stake their claims, hopefuls are racing toward the horizon; elbowing, pushing, and not worrying much if their wagon has rolled over a rival's foot, so long as they get there first!'

From 'Glimpses of Heaven, Visions of Hell: Virtual Reality and its Implications' by Barrie Sherman and Phil Judkins, published in 1992

"VR is here, and **has been for quite some time. But if we only define it** as wearing clunky head-mounted displays, **full body suits and datagloves,** we might just miss VR all together" Bob Berry, ZeroKast Inc.

It was a year after the above VR polemic was released that the first 'virtual reality' head-mounted display units appeared for home computers. Headsets by the likes of Victormaxx and Forte Technologies uniformly featured two LCD screens which could be programmed to produce a slightly different image for each eye, thereby creating the appearance of true depth. They could also track the movement of a player's head and alter the onscreen view accordingly. Riding on the back of the early '90s media VR frenzy, it looked as though home VR just couldn't fail.

Unfortunately, however, the endeavour was riddled with problems. For a start, home HMDs were expensive – the Cybermaxx headset retailed for £580, which immediately placed it beyond the reach of most gamers. Given the esoteric nature of the market, then, developers did not see the point of writing the code required to support the headsets fully, and even when they did make the effort (*Descent*, *Heretic* and *Hexen* all supported the 3D offset capabilities of Virtual I/O's Virtual i-Glasses), pre-Pentium and pre-Voodoo PCs just couldn't generate the necessary framerates.

More importantly, though, the HMD technology itself was fatally flawed: as VR veteran **Ben Vaughan** – now vice president on a project named Intertrax at VR company ISense – recalls, "Victormaxx failed because the product was badly designed. The optics were very poor and induced eyestrain, it had a simplistic tracker that induced simulation sickness and had poor resolution (approx. 100,000 pixels). On top of that they rushed the manufacturing and consequently had more than 50 per cent warranty returns on the first 25,000 units shipped. Essentially, they completely alienated their early-adopter market."

According to Vaughan, this was not the only instance of death by mismanagement. "What really killed off Virtual I/O," he continues, "was the enormous amount of money they blew on marketing – massive advertising campaigns, huge stands at shows and 'first class' living for the marketing teams. They created an oversized infrastructure that was not supported by the sales they were able to achieve." Similarly, Atari's plans to work with UK company Virtuality on a VR headset for the Jaguar were scrapped when Atari started to fall apart. Not to be outdone, Virtuality self-destructed several months later (although the technology at the centre of the deal did eventually surface as 'DynoVisor' in Japan and in the US as Philips' moderately successful 'Scuba' headset).

Alongside these disastrous endeavours, larger companies such as Hasbro and Sega were also working on prototype HMDs – but none of them went to market, even though Hasbro invested $57m into developing a VR console. In some ways, this reluctance is understandable; the HMD was beginning to look like a risky venture; there seemed to be no market for it in its current state, and consumers just didn't know what to do with it. Nothing underlined this more than the launch of Nintendo's Virtual Boy in July '95. Touted by creator Gumpei Yoki to be an important advance in videogame technology, it was to be one of the company's least successful ventures. Game over, in fact.



The Cybermaxx HMD by Victormaxx featured poor quality lenses which "induced eyestrain"



Virtual I/O produced a bearable lightweight headset, but wasted all its money on marketing



Hasbro sunk millions of pounds into a virtual reality console project, only to abandon it



Atari's plans for a Jaguar VR headset fell apart when the company itself began to self-destruct



The failure of the Virtual Boy was perhaps the straw that broke consumer VR's back

FROM NASA WITH LOVE

Before the Internet entered public consciousness in the mid-'90s, VR was the new bold dream of computer technology. Although the term was coined by techno-guru Jaron Lanier in 1986, the actual conception goes back much further. MIT luminary Ivan Sutherland (co-founder of computer graphics company Evans and Sutherland, and widely credited with inventing computer-aided design) built the first VR head-mounted display in 1966 while an associate professor at the University of Utah. From here, the notion of a computer-simulated 3D environment into which the user could be completely absorbed was explored by various academic and research establishments throughout the '70s and '80s. Inevitably, the US army became interested in the simulation potential of the medium and built its own VR setup in 1982 – the technology was gradually gathering credence.

It is NASA, however, that's credited with kickstarting mass interest in the phenomena. In 1984, research employee Michael McGreevy obtained a $10,000 grant to build a VR simulator, based on army technology. Unfortunately, the kind of system developed at the Wright Patterson Airforce base in '82 would have cost more than a million dollars to purchase. Instead, McGreevy went down to Radio Shack, bought two handheld TVs, attached them to a helmet, added an Evans and Sutherland Picture System 2 graphics computer, and built the first practical VR system for $2,000. VR became a commercial reality.

Long live virtual reality

"The single most important issue for the further deployment of VR experiences is not in the development of the hardware side of things, but in the development of the software. If we don't have compelling reasons to use VR, we won't."

Sheldon Brown, associate professor Visual Arts, University of California, San Diego, 1999

But, of course, VR is not dead. It's not even sleeping. It's just that widescale understanding of the phrase is too blinkered to appreciate the advances being made. As **Bob Berry**, chief technical officer at ZeroKast Inc. in Japan, argues, "VR is here and has been for quite some time. I think my first VR experience was playing a MUD for 12 hours straight. Granted, not everyone can be so absorbed by a pure text medium, but talk about immersion and interaction! If we only define VR as wearing clunky head-mounted displays, full body suits and datagloves, we might just miss it all together. For all we know, Moore's Law might have us skip right over all of that and go straight into nano-swarms."

Indeed, although early fumblings into consumer head-mounted hardware failed, that didn't stop computer game designers from attempting to replicate reality in their software. **Toby Simpson** at Cyberlife agrees with Berry: "VR is all about suspension of disbelief – the idea that you can forget that you're in a computer game, if only for a brief period. The easiest way of achieving this is to copy reality itself inside a machine. Construct an environment that looks real and feels real, and then populate that environment with a variety of systems – be they enemies, plants, animals, spaceships, whatever. Most of the modern videogames we play are therefore virtual realities in some way."

Simpson is correct, of course. The immersive 3D environments created in firstperson shoot 'em ups, for example, get incredibly close to many peoples' understanding of the term 'virtual reality'. On a basic level, the lack of onscreen character means there's nothing to separate the player from the action – you see events through your own eyes, rather than through the alienating presence of a Mario or a Lara Croft. Furthermore, the introduction of mouse control to give 360-degree head movement perfectly mimics natural human motion.

As technology improves, so games get closer to the immersive experience. The introduction of 3D graphics cards has allowed PC developers to play with things like environment mapping, realtime and coloured lighting, realistic shadows, etc, all of which add plausibility and depth to the game world. At the same time, the greater processor power offered by Pentium II systems has enabled designers to build games from the inside out, concentrating on true world elements like AI and physics – the very intestines of reality.

The Internet is also contributing to the dispersal of VR concepts. From William Gibson's idea of cyberspace, to VPL System's first ever complete consumer VR system, 'The RB2' (Reality Built For Two, designed specifically to enable two users to enter the same environment), the multiuser experience has always been a vital element of VR thought. Nowadays, not only do we get the short, sharp bursts of *Quake* action via thousands of dedicated servers, we also get sustained graphical worlds like *Meridian 59* and *Ultima Online* – indeed, despite the lack of visual 'authenticity', these environments may be the closest technology can currently get to creating a synthetic reality.

And consoles are not being left behind, it's just that PlayStation/N64/Dreamcast games tend to explore facets of virtual reality more subtly. Beat 'em ups have furthered the computer representation of the human form more than any other realm (hence '*Virtua*' *Fighter*), while driving games like *Ridge Racer Type 4* construct intricate, beautifully realised

"VR is all about suspension of disbelief: the idea that you can forget that you're in a computer game, if only for a brief period. Most of the modern videogames we play are therefore virtual realities in some way" Toby Simpson, Cyberlife

BECOMING VIRTUAL

Fully immersive virtual reality may be years away, but current videogames are already edging toward the phenonema. Here are four key examples.

UNREAL



Made revoloutionary use of coloured lighting to enhance the game environment. Plus, the Internet mode allows for transparent server traversal: you can walk through a teleporter and arrive in another world, housed on another server. This pre-guesses the work of ZeroKast, a company focused on persistent virtual world construction and VR consulting. "Our work involves the connectivity of heterogeneous environments (ie, the ability to connect a *Quake* world to an *Unreal*, to a *Half-Life* world, etc)," explains VP **Bob Berry**. Online VR is taking shape.

R4 – RIDGE RACER TYPE 4



R4 artists employ light, shade and intricate detail to create a world that borders on authenticity. Virtual environments will need to be as artistically refined as this. As Visual Arts authority professor **Sheldon Brown** argues, "Interactivity has to do with how we understand dimensional space through perspective, lighting, texture-mapping and motion. The more refined these elements are, and the more [they] are determined by the intentions of the artist, the more cohesive the VR experience becomes." Art, it seems, still matters.

SHENMUE



Yu Suzuki wants his ambitious RPG project to become indistinguishable from real-life experiences. As part of this, the game employs conversation between players and non-player characters – a step towards what some academics see as a major factor in the VR experience: actually talking to the game. **Philip A Bralich**, president of Ergo Linguistic Technologies, says, "One of the major sticking points to the spread of VR is the fact that you cannot really chat with characters." Using something like IBM's *ViaVoice* for ingame talk could be next...

ULTIMA ONLINE



Multiuser online games like *Ultima Online* and *Meridian 59* perhaps get closer than anything else to virtual reality – they represent totally contained worlds where players can completely immerse themselves in alternative identities. Since *Ultima Online* was set up over a year ago, hundreds of guilds have been formed and dozens of ingame marriages have taken place. A new build entitled *The Second Age* recently added new landscapes and gameplay features as well as a user-friendly chat system. The future starts here.

VIRTUAL DISNEY



You can tell there's money to be had in VR when big players like Disney get back into the game. The massive entertainment company is currently investing millions of dollars into its Disney Quest centres, the first of which opened last year in Disney World, Orlando. These massive indoor theme parks feature several 'virtual reality attractions' including a Virtual Jungle Cruise, Aladdin's Magic Carpet Ride and Hercules in the Underworld. The internal architecture is designed to encourage visitors to 'actually enter the story and become a part of it.' New centres are opening soon.

VIRTUAL EVOLUTION

Many of the technological advances made by early virtual reality pioneers have survived into today's videogame industry. Indeed, certain peripherals and concepts may never have found their way into the console and PC hardware realms had they not been explored by simulation academics many years before. Here are three examples.

3D SOUND

THEN In 1985, NASA took on ex-Atari programmer Scott Fisher to head up the VIVED project after the departure of Mike McGreevy. Fisher wanted to create an aurally as well as visually immersive environment, and so commissioned Scott Foster, of audio co. Crystal River Engineering to produce a true 3D sound system. The result was Convolvotron, a 3D audio setup which allowed the simulation user to discern the direction from each specific sound emanated. Convolvotron represented a key breakthrough in the creation of a total sensory experience.

NOW Videogame developers are gradually getting to grips with 3D sound. Creative's Environmental Audio API (which is supported by the SoundBlaster Live! family of audio accelerators) is designed to help developors incorporate true 3D sound into their games, specifically 'to create a realistic sense of distance between the player and audio events.' Elsewhere, rival company Aureal has recently released the latest version of its own 3D audio standard, A3D. Even if headsets don't take off, 3D environmental sound is certain to become a key game feature.



Creative's 3D sound system. Audio reality



VideoLogic's Sonic Vortex 2 sound card

FORCE FEEDBACK

THEN In 1976, Professor Frederick Brooks and several collegues began work on a seminal force-feedback project humorously entitled Project G.R.O.P.E. The technology, developed initially at the Argonne National Lab for radioactive materials handling, and later at the University of North Carolina, was intended to allow scientists to touch and manipulate 'virtual' molecules in 3D simulation. Since then force-feedback has become an important part of high-end simulation – and an extremely expensive one. Force-feedback-capable glove controllers can cost up to $40,000.

NOW Steadily pushing its way into the games market over the last three years, Microsoft's Sidewinder Force Feedback Pro joystick, and the Mad Katz steering wheel do go some way to emulating the resistence encountered by fighter pilots and racing drivers.

Other simple haptic devices such as the N64 Rumble Pak and PlayStation Dual Shock controller have also provided players with another layer of sensory information, such as rough terrain in driving games, or the jolt of a bullet in GoldenEye. Perhaps the most innovative uses are to come.



Good vibrations: the N64 Rumble Pak



Sony soon adopted the rumble feature

INTUITIVE CONTROL

THEN VPL Research, set up in 1984 by Jared Lainer (the man who invented the phrase 'virtual reality'), produced the DataGlove as one of the first commercial VR products. It was designed to meet the needs of virtual reality simulation creators who required an immersive means of manipulating obects and navigating within 3D environments. The glove used a magnetic sensor and fibre-optic cabling, allowing the computer to track the sim user's hand movement in virtual space. This incredibly intuitive device, adapted by various companies over the years, is now a standard in high-end VR.

NOW Not only has the videogame industry made many advances in the area of intuitive, immersive control, it has done so on a budget. As **Bob Berry** points out, "A VPL superglove costs $4,000, but it is hardly more advanced than an old Nintendo Powerglove which you can find on the Web for $6."

More recently, the N64 analogue pad and Namco's many game-specific controllers draw the gamer closer to the action. As for firstperson shoot 'em ups, Microsoft has announed a more intuitive stick to replace mouse and keyboard control. Evolution is constant.



***Time Crisis* would have been lost without it**



The N64 controller. A videogame milestone



Philips' Scuba headset – based on Virtuality technology – enjoyed moderate success. The electronics giant is rumoured to be working on a hi-res follow-up

urban landscapes. With Dreamcast's Internet capabilities, and the specifications of the next generation PlayStation, the lead into consumer VR could well come from dedicated games machines rather than the PC.

Ultimately, the home HMD market – flawed and volatile – failed its audience and scarred the reputation of VR. Vitally, in the boom years of the technology, 3D gaming was in its infancy, and consumers had no experience of moving about in 3D worlds. Now, however, by utilising constant advances in 3D technology, game developers have slowly introduced the public to the idea of immersive, simulated reality as a viable concept. It is through software, rather than hardware, that virtual reality has become viable again.

Back to reality

Over the last 12 months, several huge consumer electronics companies have begun looking into HMD technology. Sony, for example, has its Glasstron range of personal LCD monitors, the latest of which – the PLM-S700 – was released in Japan last November. This incredibly lightweight setup is built around two 0.7-inch LCD screens, and, when hooked up to a video source or PC (via the usual monitor port), projects a single image at a perceived distance of 1.2 metres from the wearer. Boasting 1.5 million pixels per screen the PLM-S700 is capable of producing an 800x600 SVGA display – a clarity far in advance of the original consumer HMD units.





Videogame peripheral designers have been eager to exploit the public's fascination with virtual reality. Hence, the NES PowerGlove (top) and Reality Quest's more recent PlayStation glove controller (above)

Japan is currently a virtual breeding ground for this sort of technology. Olympus realised Eyetrak, a personal monitor with comparable specs to an earlier Glasstron, last year and Canon has also released a headset aimed at the console and games PC market. Philips, too, is rumoured to be developing a follow-up to the Scuba headset, using much more advanced components.

Could this surge herald a renaissance for the home VR market? One thing is for sure: HMD technology is no longer in the hands of precarious entrepreneurial companies desperate to make money – it's in the hands of massive multinational corporations that can afford to play around with the technology for years before it begins to attract a mass audience.

Admittedly, apart from Canon, these companies do not currently have their eyes on the games market. The forerunner to the Glasstron PLM-S700 was bundled with Sony's DVD Player and was obviously intended for

discreet film viewing, and although no one quite knows who the latest model is aimed at, at $2,500 it certainly isn't gamers.

In fact, there is a potentially massive 'serious' market on the horizon: the wearable computer. Usually consisting of a small PC unit attached to a belt, a wrist-mounted keyboard and a head-mounted personal monitor (with see-through screen), these units have been around for a couple of years, but price, weight and a lack of processing power have restricted them to a small cybergeek userbase. Over the last few months, however, companies like Liquid Image and Xybernaut have brought out lighter, more powerful products – as **Tony Havelka**, president of Liquid Image points out "Current wearable computers that we offer are based upon the Cyrix MediaGX chip operating at 180MHz. They have 64Mb of RAM and a 3.2Gb hard drive, two Type II PC card slots, and a docking station. The entire system weighs 22 ounces and can operate on battery power for up to eight hours."

At the moment, wearables remain restricted to the professional sector. Customs officials, production-line inspectors and brokers on the stock exchange floor are all customers due to the fact that they can't stop, sit down and boot up a laptop, but need access to data quickly. However, society as a whole is becoming more mobile – laptops and palmtops now account for over 50 per cent of PC sales and it won't be long before workers find they need to keep in constant touch with the office even while walking between home and the workplace. (Plus, the good thing about wearable PCs is that you don't have to download data to a desktop PC when you get back to the office – the wearable *is* the desktop PC – you simply attach it to a normal monitor and keyboard.)

Wearable computers, then, could well represent the next phase in the communications revolution, and everyone wants to get in on it. No doubt Sony, Olympus and Canon have an eye on the market with their personal monitors, and other big fish are making more explicit plans. IBM, for example, is currently prototyping the VisionPad, a wearable computer believed to be based on an Intel 233MHz Pentium, complete with HMD and IBM's own *ViaVoice* voice dictation software. A launch is expected sometime this year.

But what does all this have to do with games? Simple. If wearable computers do become as popular as laptops – more successful, even – then dozens of massive companies are going to start producing high-quality SVGA personal monitors. However, the makers of these monitors would be foolish to restrict themselves to the mobile computing market: the entertainment software industry is expanding at an incredible rate, fuelled by consumer demand for 3D games. Realtime 3D is big business – that's why Intel recently invested $24m in 3D graphics company Evans and Sutherland, why Microsoft continues its DirectX project, and why all the leading CAD companies are investing heavily in realtime 3D software developers – the first company to adapt its personal monitor for consumer VR use may just find itself in the lead with a massive new market.

And, importantly, all the facets are in place for home VR to work. As Vaughan suggests, "The principle difference between now and then is that optics and lens technology have advanced thanks to new materials and manufacturing processes; miniature hi-res panels have been developed and high performance inertial trackers are now available. On top of that, these companies have the financial and technical resources to develop and manufacture the products properly." Headsets are now light, hi-res and well-made. On paper, at least, it's all coming together.

Havelka concurs, "While on the surface it seems that we're doing 'serious' work in the wearable computing area, there are numerous technologies being created that will have direct crossover capabilities in the gaming market. One such technology is head-mounted display technology. We've created a lightweight (4oz) monocular display for wearable computing applications. It's based upon a 0.24-inch diagonal LCD display. The next generation of display is 0.50-inch in diagonal, but has a resolution of 1,280x1,024 and is full colour. By incorporating two of these screens into a headset, one for each eye, the gamer will be presented with an image possibly better than what they have on their current monitors. High quality, immersive gaming will be a reality for the average home user."

Indeed, Sony would already seem to be making moves in this direction. It is, for example, currently developing a Glasstron with stereoscopic capabilities – a major leap toward immersive VR. Furthermore, US-based tracking specialist InterSense has developed a product







3D graphics have revolutionised the videogame industry, and they are becoming more and more complex – as these screenshots from Sega's home console versions of *Virtua Racing* (top), *Daytona* (centre) and *Sega Rally 2* (above) attest. Is the next evolutionary step truly immersive virtual reality? Several massive electronics companies are hedging their bets

"While on the surface it seems that we're doing 'serious' work in the wearable computing area, there are numerous technologies being created that will have direct crossover capabilities in the gaming market" Tony Havelka, Liquid Image

MOTION SICKNESS

One of the major barriers to the widescale consumer adoption of VR headsets in the early '90s was 'simulation sickness.' In short, VR made people feel ill.

There are a number of reasons for this, some technical, some physical. The former are easier to place, as **Ben Vaughan** points out, "Typically, low-end HMD manufacturers like Virtual I/O and Victormaxx used liquid tilt sensors – the liquid moves in the direction you tilt the sensor and this can be measured to show movement in the virtual environment. The problem is that they are inaccurate, slow (inducing lag) and suffer from 'slosh' – ie, the liquid moves one way, then sloshes back, affecting the screen image."

Lag (the delay between the user moving their head, and the image moving in synch) is perhaps the key problem here. A delay of just 50 milliseconds is enough to inform the brain that the image is lagging behind. The sensual disorientation this causes contributes heavily towards nausea. According to Vaughan, InterSense has made major advances in the tracking area. Vaughan says, "Eric Foxlin has studied inertial tracking systems at MIT and filed a patent that covered the use of drift correct inertial sensors for tracking heads and other similarly sized bodies. The products that are now built use a combination of accelerometers, gyros and magnetometers and a hell of a lot of clever maths to provide quick, interference-free tracking."

But what about the physical/psychological problems? There is a 'sensory rearrangement theory' which suggests that motion sickness while using VR is a result of conflicting messages reaching the brain from different senses. In other words, virtual reality confuses the brain in the same way as a bumpy sea journey, by misaligning what the organ sees and what it feels.

LCD: RIP

All current laptops and personal display monitors use Liquid Crystal Display (LCD) screens. Unfortunately, this technology is expensive, mainly because it only has a manufacturing yield rate of around five per cent – for every 100 LCD displays made, 95 per cent have to be discarded. Such waste cannot be tolerated in the modern technology industry, of course, and several organisations are now working on alternatives. One example is Cambridge Display Technology. Last year the company announced its development of a screen using light-emitting polymers – or 'plastic that glows' as the setup is euphemistically referred to. Although in its infancy (currently only monochrome displays are possible), the technology has attracted the attention of giants like Intel and Seiko-Epson. Not only are LEP screens cheaper to manufacture than LCD equivalents, but they can also be moulded into any shape, making them perfect for use in VR headsets. LEP televisions are expected within five years, and if the technology does drastically reduce the price of small hi-res displays, it could find its way into future Glasstron or Eye-Trek units. If HMDs were no more expensive than joysticks, would there finally be a mass market?



CDT's LEP display. The next step is full colour



William Gibson's classic 1984 cyberpunk novel *Neuromancer* coined the term 'cyberspace'. It describes the process of exploring an advanced kind of virtual reality Internet which users actually project their conciousness into via dermatrodes attached to the forehead

called Intertrax – a small, lightweight head tracking device which fits onto the Glasstron. As Vaughan explains, "The tracker connects to the PC through the serial port and communicates with the PC using RS232 data. The tracker firmware includes two modes: in mouse emulation mode it'll work with pretty much any software in two degrees of freedom. To get full use (3DOF) of the tracker, it needs either a driver or direct integration." Although all PC games will work with Intertrax through mouse emulation (firstperson shoot 'em ups naturally work best), it's currently difficult for developers to exploit the full 3DOF feature. If Microsoft were to adapt its DirectInput API to recognise headtracking technology, however, things would be much simpler.

An eye on the future

Even if the wearable computer fails to take off, there are other technologies waiting in the wings to offer a home to VR. Last year the Human Interface Technology Lab at Washington University won the 1998 *Discover* magazine Technological Innovation Award, thanks to its virtual retinal display project. A VRD unit currently uses a combination of laser and light-emitting diodes (LEDs) to shoot a single stream of pixels directly onto the user's retina. As the beam scans across the eye the user's visual system interprets the signal as a coherent image – just as it would while watching a television. The size of the 'virtual monitor' is adaptable, as is the distance it appears from the user.

Optical technologies company Microvision has recently licensed the technology for commercial use, and is currently showing off prototypes to the professional sector. As PR manager **Betsy Rogers** told **Edge**, "We are pursuing development contracts with early adopters within the aerospace, defence, medical and industrial sectors, and have delivered prototype displays to the US Army, the US Airforce, the US Navy, Boeing, Saab, and Ericsson/Saab Avionics. We also have a development contract with the Wallace-Kettering Neuroscience Institute to develop a head-wearable display for use in image-guided surgery applications."





Sony's PLM-S700 (left) and the InterSense headtracker (above) together provide a hi-res virtual reality image that smoothly tracks head movement

At the moment, the technology is far too expensive to move across to the mass consumer market – mostly because of the laser technology currently being employed. "In order for the price to come down, the components need to get smaller and cheaper, particularly the light sources," explains Rogers. "While we currently use red laser diodes, green and blue laser diodes don't exist yet. We're using gas lasers for blue and green in our prototypes, which cost thousands of dollars. The equivalent laser diodes would cost just a few dollars apiece – and eventually just a few cents."

In two to three years time, then, when blue and green LEDs become available (and companies begin working with them), Microvision has plans for several products, including a mobile phone with VRD monitor for face-to-face communication and an entertainment platform. "Players could wear VRD-enabled eyeglasses that beam the game directly onto their retinas to create a virtual reality world rendered in full detail," suggests Rogers. The possibilities are staggering.

One day, all this will be VR

So the components of virtual reality, as the early pioneers dreamt of it, are real – and they are converging. Software developers are creating incredibly realistic 3D environments with real-world physics, immersive sound and involving storylines; hardware companies are working on HMDs and virtual retinal displays, and the Internet is spawning dozens of sustained game worlds where people have created virtual lives, virtual friendships, even virtual love affairs.

Perhaps the future of VR is a mix of all these strands – an online world, like *Meridian 59*, but with the visuals of *Half-Life*, viewed though an HMD. But even HMDs are passé as far as cyberculture goes. In *Neuromancer* William Gibson saw a world where computer users jacked straight into an international comms network,

doing away with a thirdparty computer interface altogether. Science fiction? For now, perhaps. But things are changing fast – as Berry asserts, "The neural implant is the Holy Grail for Gibsonian cyberpunks. But much like the notion of a species dependant on computer technology, it's already here. Scientists have already utilised a neural implant as a treatment for some forms of epilepsy. The day when we are able to 'jack in' to our computers is closer than most people realise." Just bear that in mind while you're slavering over the specs of Sony's next generation PlayStation.

Despite all the positivity in the industry, however, a large question mark still hangs over consumer VR. What if, regardless of technological advances and despite amazing 3D software, people simply don't want it? After all, it's currently possible to buy a full VR system for around £1,500 – if you know where to look. As Bob Berry explains, "MetaByte offers a great package that includes a Wicked3D Voodoo2 SLI rig, eyeSCREAM Stereoscopic glasses, and an incredible driver that lets you boost to unheard-of resolutions when using a 3Dfx chip. If you put that together with a large viewing display, fast machine, 3D surround sound and a comfortable input device I think you have home VR for under $3,000. As my friend Scot Refsland said, 'The technology is there. People need to catch up'."



David Cronenberg's 'eXistenZ' is the latest movie to toy with VR themes. Players hook up to games via a spinal jack – a concept similar to the Dermatrodes in 'Neuromancer'. Will VR only become a 'must have' when players can jack straight into the game experience?

"Through the six years I spent witnessing people using HMDs, I would estimate that just a quarter of users really understood how the headset worked and truly enjoyed the software" Graeme Williams, Virtuality

But maybe people don't want to catch up. Psygnosis designer **Graeme Williams**, who worked at Virtuality throughout constant updates of the technology, is unconvinced: "Through the six years I spent witnessing people using HMDs, I would estimate that just a quarter of users really understood how the headset worked and truly enjoyed the software. Then there was a middle 50 per cent who, after several minutes of assisted experimentation, would finally twig what it was all about. Finally, the last quarter of people would never respond to coaching with the machines. They just couldn't make the leap from all the hardware to the virtual realities they were trying to be immersed in. I put this down to their reluctance to detach themselves from their real-world surroundings and a mild technophobia."

Indeed, many people find the experience of sitting in front of a monitor in a darkened room playing *Half-Life* immersive and frightening enough, so why bother forking out for a headset? **Chris Hecker** at US developer Definition Six is another non-believer: "VR failed because no one's come up with a way to make money in an 'immersive environment' that doesn't involve shooting somebody! As for home VR, people don't like to put junk like headsets and gloves on their bodies to interact with their computers, even for videogames."

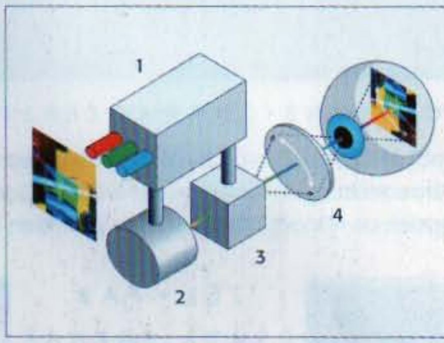
However, ten years ago many industry pundits couldn't have foreseen the enormous growth of the Internet or the fact that a huge percentage of homes would have PCs. Similarly, the 3D graphics card business sprung out of nowhere, but the public embraced it and it now dominates the computer games industry. The technophobia Virtuality experienced two years ago is a dying prejudice. Perhaps all it will take for home VR to lift off is just one killer app or a company like IBM bundling a HMD with their PCs. After all, in the computer industry, making something 'free' is always the best way to get people to on board.





Will typical PC users one day wear their computers? Companies such as Xbernaut and Liquid Image certainly believe so. The Xbernaut Mobile Assisstant (top) is built around a 233MHz CPU and features a 4.3Gb removeable hard drive. Liquid Image's wearable (above) weighs just 22oz. This market could generate interest in HMDs and consequently VR

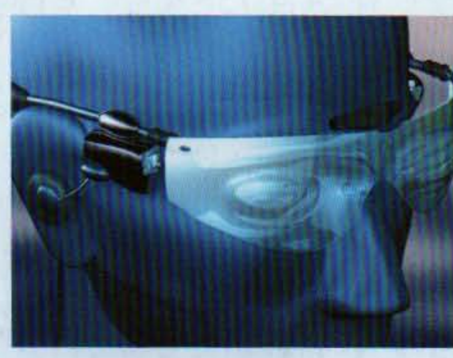
VIRTUAL RETINAL DISPLAY



Microvision's Virtual Retinal Display was originally developed at the University of Washington's Human Interface Technology Lab. The device essentially transmits electronic information directly into the user's eye, rather than via a screen of any kind. As Microvision (**www.mvis.com**) explains, "The device conveys the image by scanning an electrically encoded beam of light through the pupil to the retina, simulating receptors on the back of the eye. The user has the impression of viewing a high-quality video image an arm's length away." Currently hugely expensive, the development of cheaper light-emitting technologies could bring Virtual Retinal Displays into the consumer market within five years.

KEY

1. **Drive Electronics: Receive the image from its source (video, PC, etc) and process it**
2. **Light sources: Combine red, green and blue to colour each pixel appropriately. The light sources apparently operate at a very low intensity so they pose no danger to the eye**
3. **Scanners: Horizontal and vertical scanners move the light source across the eye to create the image**
4. **Optics: These elements project the scanning beam of light through the pupil and on to the retina**



Microvision's mock-up of a personal monitor employing Virtual Retinal Display technology. This may be a reality within three years

TESTSCREEN

The definitive monthly assessment of the world's latest videogames

Where now for Sega?

Sony's next generation PlayStation announcement last month sent shockwaves through the development community, leaving even the most verbose cynic struggling for words. The resulting impact was everything SCEI had hoped for, of course, but the reality is nevertheless unavoidable: the implications of this forthcoming 128bit system are massive. In theory, videogaming is about to enter a whole new dimension, with Sony currently seemingly way ahead of the rest of the field.

Sega may have looked ahead when developing its Dreamcast system. But Sony looked at technology that didn't exist 'off the shelf', and forged ahead.

Having recovered from the initial shock, cynics are now busy spreading their wisdom on the Internet, with tales of concern regarding Sony's ability to launch its new machine at a reasonable price point. It's a fair point, obviously, but you can't help thinking that you don't sell 50 million PlayStations worldwide without knowing what you're doing.

On paper at least, then, Dreamcast looks significantly inferior to the PlayStation's successor, but only a fool would claim that Sega has already lost. In Japan, gamers remain excited at the prospect of forthcoming titles for their 128bit Sega system and there's a genuine buzz about all things Dreamcast, which is more than can be said about the N64 and its escalating fight to maintain shelf space in Akihabara's finest videogame emporiums. With the next PlayStation still some time away, Sega has enough time to build up a strong and loyal domestic user base – a task that would be easy with a consistent string of quality titles.

More importantly, perhaps, the company needs to focus strongly on the European launch. In many respects, Sega is in an enviable position. Naturally, the marketing machine needs to be maintained with a constant supply of propaganda-based oil, but the launch line-up must be right. This is absolutely crucial. There is enough time to fine-tune *Virtua Fighter 3tb*, *Sonic Adventure* and *Sega Rally 2* before the machine arrives in Europe. Add in the formidable *Power Stone* and *Resident Evil: Code Veronica*, *Shenmue*, *Soul Calibur*, among others, and Dreamcast could in theory launch here with ten to 15 'must have' titles – an unprecedented feat in videogaming history and something capable of converting even the most hardened Sony fan. It would also send out reassuring echoes of a company prepared to take its audience seriously – a crucial consideration.

It doesn't really matter how many polygons a console can throw around. Only consistent, strong software support can ensure commercial success.





Despite the potential of Sony's NGPS, Dreamcast's launch in Europe with quality titles such as (from left) *Sonic Adventure*, *Power Stone* and *Bio-Hazard* could still secure a chance for Sega

Index

Edge evaluates games on a scale of ten, where five naturally represents the middle value. A game receiving a 'seven out of ten', for example, is a highly competent title with noticeable flaws but which should still appeal to a considerable range of players – naturally more so to those who favour the title's particular genre. It does, after all, score two points above average and should therefore not be considered as such.

Edge's rating system is fair, progressive and balanced. An average game deserves an average mark – not, as many believe, seven out of ten.

Videogames on the **Edge**

This month's hot softs...



Kingpin (PC) Xantrix

Securing the prize for least 'PC' PC game of the year, *Kingpin* has stunned pundits with its expletive-laden audio and bloody combat. Effing great.



Wild Metal Country (PC) DMA

Tank-hunting season is in full swing as **Edge** furthers its quest to be the most dangerous beast in the universe. The fun you can have with teleport shells...



Pop 'n' Music (PS) Konami

Forget your joypad and invest in the appropriate controller. It doesn't make this surprisingly addictive game any easier, but you'll look less stupid trying it out.



Rollcage (PS) Psygnosis

Occasionally frustrating it may be, but this can offer some genuinely thrilling gaming moments. Which is more than can be said for many 'new-breed' racers.

ALIENS Vs PREDATOR



While playing as the marine, the cloaking system can help you to get close to targets, but true to character, the Predator doesn't depend on sight alone









Later levels have you fighting alongside fellow marines (right) – but most allies come to a sticky end





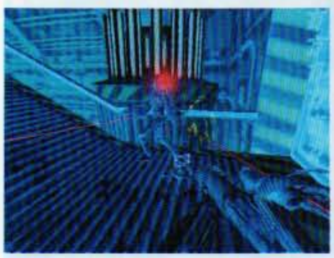
In a genre rife with violence, *AVP* ranks as the most bloodthirsty yet. Body parts are realistically torn away while gore splatters against all surfaces

At first glance, *Aliens Vs Predator* would appear to be little more than another *Quake* derivative cloaked with familiar movie-manufactured finery. But while it undoubtedly works within the familiar confines of a familiar genre, few could have expected British team Rebellion to inject it with so many fresh ideas and such a genuine feel for the 'Alien' and 'Predator' movies. It may not be as technically revolutionary as the almighty *Half-Life*, but by portraying the battle between three very different lifeforms – human marines also figure prominently – from each perspective, it delivers an intense and highly graphic conflict to rival even its big-screen inspiration.

Those of you who remember the ill-fated Atari Jaguar may recall Rebellion's earlier attempt at bringing two of the best movie monsters into one gaming arena, an idea previously explored in the Dark Horse graphic novels. Clearly, much has changed since those days, and while the three-way battle between man, biomechanoid alien and savage predator remains central to the gameplay, this looks, feels and plays very differently. Making fair use of current PC technology, it creates a unique visual style where blood of three hues splatters against floors, walls, and ceilings with shocking regularity, and where each of the three creatures is exquisitely animated. The Predator stomps around with real weight and menace, marines peer cautiously into the darkness, and aliens belt along at a truly frightening pace, scaling walls and ceilings in an unnerving and strategically crucial way. Even a creature's death throes are painstakingly handled, with body parts skittering off in all directions, heads bouncing down stairwells, and blood spurting from gaping wounds.

Playing the role of the marine is where gamers will feel on most familiar ground. In this mode, the story has the player stranded after a training mission. Progress inevitably involves much button pushing, use of lifts, and collection of extra medical supplies and better weapons. But even though such elements are strictly by numbers, even here the licence has been used to elevate the proceedings to another level. Several scenes recall classic moments from the movies, the aliens moving with the ferocity of those in 'Alien 3', and the close combat – complete with pulsing radar – mirroring the heated battles from 'Aliens'. Even face-huggers, and







While one of the most effective translations to small screen yet, the licence limits the creature types available, although there's still room for variation, including high-powered aliens (top left) and the queen herself (right)

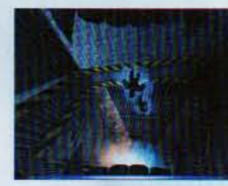
Format: **PC**

Publisher: **Fox Interactive**

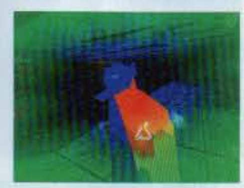
Developer: **Rebellion**

Price: **£35**

Release: **Out now**







The Alien's vision is enhanced by pheromone detection, while the Predator can switch to alternative spectral bandwidths – both useful visual advantages

flame-throwers to combat them, are included, while the finale goes all out to recreate the hangar showdown with an alien queen. Needless to say, the answer lies with that airlock...

Playing as the Predator, the differences in weapons and view behaviour have the greatest impact, although being able to jump and fall great distances does have its uses. It's also possible to switch the focus to different parts of the colour spectrum, making tracking prey much easier. The Predator's helmet also features a zoom function, while the shoulder cannon and disc weapons make use of that famous triangulating targeting system. In addition, enemies can be skewered, shot at with a pistol, or simply sliced with wristblades, a cloaking device making it possible to get up close without detection. The cloaking system isn't infallible, though, as movement and bright light reduce its effectiveness. In addition, actions such as opening doors will obviously attract attention, while it's largely futile when confronting the aliens as they can 'see' through it anyway – they use pheromones to track prey.

It's in the hardened reptilian shell of the alien that things get really inventive. All of those properties that make them so exhilarating to fight against – most notably that surface-clinging ability – make them utterly 'alien' to control. As the manual notes, this creature doesn't have any weapons, it *is* a weapon. This means attacks are limited to claw and tail swipes, or jaw crushes, any damage inflicted rewarding the alien with energy top-ups. But while the alien is surprisingly vulnerable to attack, and has to get dangerously close to its enemies to kill them, its speed and agility give it a real edge. A jump function makes it possible to pounce on enemies, or leap four stories up, while that clinging ability makes a mockery of gravity. Running around upside down or along walls is intensely confusing for some time, but with practice it transforms the whole firstperson shoot 'em up experience.

It's this mode of play, plus the way the game fully explores the interaction possibilities between the three races, that ensures *AVP* succeeds where so many other movie spin-offs fail. Granted, the tie-in also means there are a limited number of creature types to fight against. But, with six main missions for each creature, an extra 15 bonus levels further exploring the three-way battle (and introducing new elements such as jetpacks and grappling hooks), and the unique angle it adds to the multiplayer modes, such limitations are forgivable.

Equally, while *AVP* lacks the glossiness of its peers (*Unreal*, *Half-Life*, etc) – featuring more modestly designed locations, simpler AI coding, and a control system lacking in precision – the fabulously horrific, tense, and uniquely skewed action will doubtless be enough to make it a firm favourite with those PC gamers who possess an insatiable appetite for firstperson thrills.

Running around **upside down or along walls** is intensely **confusing** for some time, but with practice it transforms **the whole firstperson shoot 'em up** experience

Edge rating:

Eight out of ten

BLUE STINGER









Letting loose with the napalm gun is undoubtedly good to watch, but it's really no more involving than a fireworks display. Visual pyrotechnics may be *Blue Stinger*'s *raison d'etre*, but on Dreamcast fine graphics should be a given



By blowing away the targets in this arcade attraction, Elliot can use the prize to gain a secret pass code from the little girl nearby. It's as easy as A, B and then C

The first of 1999's new wave of Japanese action adventures, Climax Graphics' *Blue Stinger*, was originally scheduled to appear in late '98. As with many ambitious Dreamcast titles, it was no great surprise when this one quietly slid by its release date. The drip-feeding of increasingly impressive screenshots kept hopes high for *Stinger's* quality.

Heavily indebted to Capcom's seminal *Bio-Hazard* series, *Blue Stinger* offers a sprawling world to explore, patterned with simple conundrums to inhibit your progress and a vast arsenal of weapons with which to eliminate multiple foes. The game's curious plot is relayed via some of the worst scripting yet to crawl out of Japan, plummeting beyond the realms of humour into sheer risibility. That the characters' lips don't even vaguely synch to their speech only adds to the negative impression.

Controlling a pair of unlikely heroes, one Elliot G Ballade and Captain Dogs, your mission is to discover what has happened to a secret military testbase after it is hit by a stray meteorite. It soon becomes apparent that disaster has – quite literally – struck, with the base deserted save for a handful of survivors and a motley collection of half-man-half-monsters.

Unsurprisingly, locating the survivors results in being given items which aid your progress. The alien creatures must be blown apart, after which a bizarre fountain of gold coins erupts from their corpses. This cash can then be spent at various vending machines around the base to buy everything from cans of cola to a 'super bazooka'.

Blue Stinger's high points come almost exclusively from buying and trying the successively more extreme weaponry on offer. As with all the game's artwork, explosive effects from items such as the napalm gun are exceptional, although the artists' palette would have benefited from being a shade more reserved. Scenery is detailed, although it's nothing more than stage dressing, and interactivity is sadly reduced by only being able to pick up whichever items are twinkling on the screen. Very 1992.

It could well be that *Blue Stinger* is portentous of action adventures yet to come on the new superconsoles.

Alien creatures must be blown apart, after which a bizarre fountain of **gold coins erupts from their corpses**. This cash can then be **spent at various vending** machines







Going for a dip (top right) should be a simple operation, but the control system defies all logic



Defeating foes becomes somewhat easier once you've obtained the axe, although when confronted by two at a time, combat is simply frustrating

Format: **Dreamcast**

Publisher: **Sega Enterprises**

Developer: **Climax Graphics**

Price: **¥5,800 (£30)**

Release: **Out now (Japan)**



***Blue Stinger* does have its moments, such as when you're blasted across a chasm after triggering this explosion**

Clearly a huge amount of effort has been expended by Climax Graphics on creating a detailed backdrop for the action, but if something had to give, to ship *Stinger* within budget, clearly it was the gameplay. Simple details that many thought were a thing of the past, such as the characters running headlong into walls – then carrying on their running animations – are rife.

More detrimental still is the combination of a hyperactive camera and an occasionally infuriating control system, particularly when Elliot has to swim through sections. That Miyamoto-san's designers taught the world how to swim in 3D nearly four years ago makes the fault even less tolerable. And in the curious realms of *Blue Stinger*, humans seemingly have no inclination to float.

Similarly annoying is the ingame camera. Instead of taking up position in the corner of a room, or simply tracking behind the character – as in *Mario* – it swoops and flits around the action, often resting in the most bizarre positions. **Edge** can only assume that the programmers' intention was to replicate the kooky angles of *Bio-Hazard* in a real 3D environment.

Despite its numerous faults, though, *Stinger*'s exploratory nature makes it hard to guess what's coming next. There are several fine plot moments, such as having to defrost a giant freezer before the characters themselves freeze, which help counter the many minus points. However, the puzzles that must be solved to advance the story are complex only through a combination of obscurity and Japanese text. The western version – if one arrives – will be a walkover, so linear is your progress.

Although Climax Graphics has obviously strived to create a rival to Capcom's horrific adventures, it has, ultimately, failed. It's not a case of the title being buried under the weight of expectations, more that it simply feels conceptually under-developed. In 1999 such poor animation and weak camera work, coupled with a sub-B-movie plot (backed by the most overblown musical score of recent memory), are simply unacceptable. Sega now needs *Bio-Hazard: Code Veronica* to impress more than ever.

Edge rating:

Five out of ten

AERO DANCING







Three ingame views are available: cockpit, close chase (above), and far chase. In the cockpit, the display obliterates the screen, making flying very difficult



The peculiar pacing is most noticeable in the city section, where even at 200mph and 50ft from the ground there is a disappointing lack of speed





Blue Impulse flights start with a lengthy mission briefing in Japanese (top). The only clues to your mission objectives are the speed and degrees figures...

That flight sims don't work on consoles is one of gaming's universally accepted rules. The lack of analogue control, processing power, even a lack of buttons with which to accurately control a plane, have all meant that for serious enthusiasts, the PC is the only credible option. Now that Sega's new machine has overcome at least two of those stumbling blocks, *Aero Dancing* is intended to become the first of its kind on a console. Yet, despite its promising debut (see **E**68) and graphic finery, it ultimately fails.

For anyone who doubts that cultural differences exist as much in games as in any other form of media, *Aero Dancing* should be prescribed entertainment. The difference of approach that Japanese and western players bring to games is reflected in the open structure of this title. The three main play modes (Blue Impulse Mission, Sky Mission Attack and Free Flight) require you to enjoy the *Aero Dancing* experience over and above the objective tasks thrown at you by the structure of the gameplay.

As an example, the game's Sky Mission Attack mode consists of eight missions with *PilotWings*-style objective rings to fly through, spread out over a large area. Points are awarded for navigating the bonus rings scattered along the way, as well the fastest mission time. However, the difficulty curve is set so shallow and the missions themselves are so easy to complete, that it's possible to waltz through the majority of this section of the game at the first attempt. That isn't to say that there isn't massive scope for improving your scores and refining flight strategy, it's just that, with the exception of a high-score table, there is very little motivation to repeat and practice sections.

Taking another area of the game, it's hard to see how western players raised on perpetual conflict scenarios are really going to clasp formation flying to their bosoms. For a far throw from the deodorising qualities





Format: **Dreamcast**

Publisher: **Sega**

Developer: **CRI**

Price: **¥5,800 (£30)**

Release: **Out now (Japan)**





Crucially, the blue rings are your main objectives in the Sky Mission Attack mode. An auto-targeting system and radar enable you to navigate more easily

The demanding multiplayer mode (right) requires formation flying on *one* screen

suggested by its title, Blue Impulse is in fact Japan's premier aeronautical display team, and this part of the game concentrates on training players to take part in some of their routines. This translates to a short series of briefings, miniature flights and debriefings, to form a surprisingly effective tutorial on some of the main techniques involved in flying. It's only when this area of the game has been mastered that the singlescreen multiplayer missions should be attempted. These involve close-formation flying, with a break in formation leading to the premature, *Micro Machines*-esque end to the mission. It sounds an unworkable concept which, in practice, is exactly what it turns out to be.

If *Aero Dancing* was in itself a vibrant flight simulator – capable of challenging the best that the PC has to offer – its rather weak internal structure might be forgiven. The inevitable problem, though, is that the game falls between the absolute simulation required by dedicated fans, and the easy arcade thrills delivered by most console games. On one hand the analogue control and simple throttle are not going to impress anyone trained in the use of the full joystick, throttle lever and rudder pedals setup. On the other (and despite the fact that the planes on offer in the game are some of the fastest in the world), there is a worrying lack of speed which lends a relaxed, treacly pace to what should be some white-knuckle flying. It's possible to fly under bridge spans less than 100ft high at 350 knots, and yet doing so gives no more impression of speed across the ground than cruising at an altitude of half a mile.

At best, *Aero Dancing* is a brave attempt at a style of game more suited to the PC. At worst, it's a competent graphics engine with an afternoon's worth of game attached. For all its smooth analogue handling and largely glitch-free graphics, there just isn't enough content to provoke any serious long-term interest.

If it was taken back into the studio and redesigned to include at least quadruple the number of missions and incorporate the smooth difficulty curve of *PilotWings*, then even given its sedate pace *Aero Dancing* might have stood a better chance. As it is, few gamers should hold their breath for a UK launch.

The **difficulty curve** is set so shallow and **the missions themselves** are so **easy to complete,** that it's possible to **waltz through** the majority **of this section of the game** at the first attempt



You'll receive instructions in the finer arts of take-off and landing

Edge rating:

Four out of ten

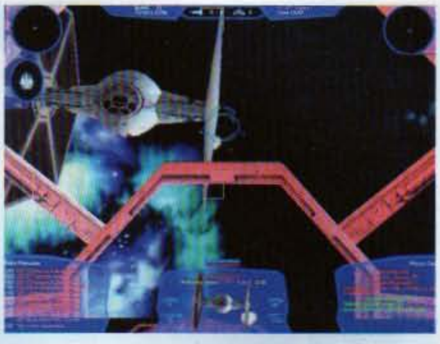




While the graphics engine is solid with little clipping, there is a disappointing lack of ground detail on all of the flight arenas

X-WING ALLIANCE









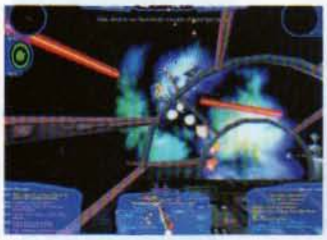
Familiar imagery and situations abound, including a final battle against the Empire's second Death Star. Fighting against the Tie Fighters is particularly challenging. They may not be heavily armoured, but move extremely fast

While *X-Wing Alliance* will most likely benefit from the hyperbole surrounding the forthcoming 'Star Wars: The Phantom Menace' movie, there's a strong sense that a game based around the original trilogy couldn't really have been released any later. Attention has already turned to the next two 'Star Wars' games, leaving this latest addition to the *X-Wing* series exposed as little more than an update of an existing formula.

Happily for *X-Wing Alliance*, however, the formula is one that works, and has finally come of age here. For, while previous LucasArts titles have had to rely on good game mechanics and that priceless licence rather than cutting-edge coding, *Alliance* brings a more contemporary air to the battle between the Empire and the Rebellion, with coloured lighting and higher detail modelling vastly improving the experience.

The story also impresses, neatly working alongside the film scripts in its telling of a trader family drawn into the conflict. It's a well-conceived idea that provides two distinct chapters; novices learn the basics of flight while trading, gradually coming to blows more frequently until they join the Rebel Alliance and get to fly a whole new set of craft. Best of all, though, the designers have finally woken up to what gamers really want from a 'Star Wars' game, bringing key events into the plot. There's an opportunity to fly the Millennium Falcon, with the tale culminating in truly epic style with a run on the second Death Star above Endor.

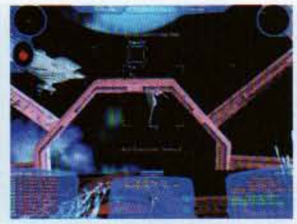
The gameplay is familiar enough, treating the licence with such gravity that piloting the various craft takes on the form of a simulation, each possessing its own complex features and handling physics. Even a multi-button joystick isn't enough to cover the many functions needed to fly any of these vehicles, with a bewildering range of throttle, targeting, communication, docking, and multifunction display toggles to consider. It's rather alarming to discover that the control reference chart supplied in the box stretches over five pages, some controls requiring use of the Shift or Ctrl keys – clearly, this is not a title that will





Deep-space scenes are filled with background art and a glut of other craft. Electricity crackles and sparks fly when heavy damage is inflicted





Format:	**PC**
Publisher:	**LucasArts**
Developer:	**Totally Games**
Price:	**£35**
Release:	**Out now**





Hi-res textures and detailed vehicle models convey a great sense of scale

Early missions require you to cooperate with family members, providing support and rescuing them if plans go disastrously wrong. The level of graphical detail extends to models of the player and his robot co-pilot (right)

ever be ported to a console. Such a dedication to pseudo-realism may well please some PC gamers, but to **Edge** it seems absurd that the 'Star Wars' universe has been modelled to this degree. Flight and battle sequences on the big screen are always brisk, action-led affairs, so it's rather ironic that the PC interpretation should try so hard to get away from straight shoot 'em up action.

That said, it's an approach that hasn't hurt *X-Wing Alliance's* predecessors at all. And this proves to be just as adept at adding colour to the gameplay as it is to those visuals. The oneplayer mode builds up the sense of camaraderie brilliantly, over 6,000 lines of dialogue ensuring every mission features a generous helping of character interplay. The missions themselves prove most satisfying, rarely relying on clichéd ideas.

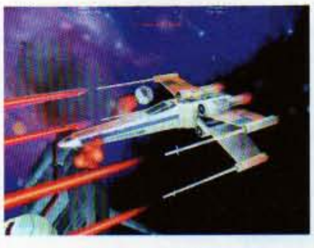
The designers have **finally woken up** to what gamers really want from a 'Star Wars' game. **There's an opportunity** to fly the **Millennium Falcon**, with the tale culminating in truly epic style

Alliance also finds the series finally achieving a fine balance between its solo and multiplayer variations, with that strong narrative complemented by a strong range of network, serial link and Internet game modes. There's the ability to race other players using the Pilot Proving Grounds, as well as going into battle in the various predesigned or custom skirmish missions. Here, the choice of 20 or so familiar 'Star Wars' spacecraft really comes to the fore, with up to 32 players fighting in teams, battling in deep space, asteroid fields or mined areas.

Despite the misgivings about the simulation-like treatment of what is essentially escapist sci-fi nonsense, *X-Wing Alliance* is a powerful evocation of that classic milieu. Recreating the sights and sounds of the movies with rare skill, it pulls out all the stops to ensure the age of the first trilogy ends in real style. It's not a great evolution by any means, but as a refinement of an already well-loved game style it easily exceeds expectations. A nation of would-be Luke Skywalkers can breathe a sigh of relief: the Force is still with them.

Edge rating:

Eight out of ten



Improved ingame lighting makes battle scenes more convincing





Early missions gradually introduce the threat of the Empire, although players who don't act promptly can soon find themselves in hot water

REDLINE

Format: **PC**

Publisher: **Electronic Arts**

Developer: **Accolade**

Price: **£40**

Release: **Out now**

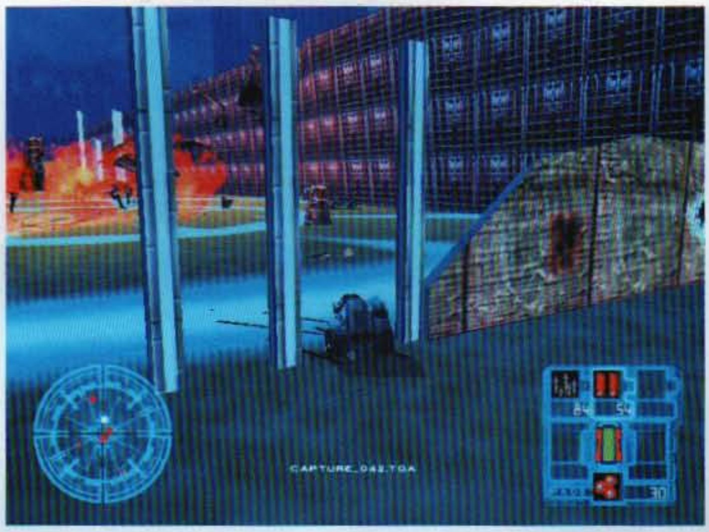








***Redline* perks up a little once you switch to on-foot action. Particularly satisfying are the visceral charms of the buzz saw (above)**



***Redline* endeavours to meld two proven game styles – which is why it merits attention within these pages. The execution hardly matches the ambition, though**

The danger with attempting two things at once is that you often simultaneously succeed at neither – a feat consummately achieved by Accolade with this vainglorious attempt to fuse *Quake* with *Carmageddon*. Aided by a lumbering post-apocalyptic storyline, this hybrid tries to elicit the cars 'n' guns excitement of 'Mad Max', but fails as its genre donors reject each other.

This compatibility flaw manifests itself most clearly in the level design. Large, open arenas facilitate the car wars sequences, where armoured buggies circle each other amid a crossfire of bonnet-mounted rockets and anyone on foot is dogmeat. Where maze-like tunnel sections mark the pedestrian interludes, you adopt a more traditional firstperson pose, fending off assailants with the usual selection of shotguns, grenades and rocket launchers.

The effect is to divide *Redline* into two separate games that bear little relation to each other. Rather than using the dualistic approach to multiply the player's options throughout the game, Accolade has settled for a predictable rut of car section followed by gun section followed by car section, and so on.

Such problems would be forgiven if either sub-game delivered, but in comparison to the best the PC has to offer, will leave you cold.

The driving side, though easy to master, suffers from simplistic handling. The differences between the various vehicles' acceleration and agility is negligible, so there's little thrill whenever you jump into a new model. What's more, the onboard targeting system is incredibly frustrating, while the weapon effects are barely worth the effort anyway.

The firstperson shooter element is much more enjoyable, featuring deft ideas such as the transforming gun, which can be reconfigured, Swiss Army knife-style, into different weapons including a buzz saw, rocket launcher and sniper rifle.



Even with an accelerator card the graphics are simply woeful









Fatally, the in-car sequences suffer from anodyne handling and a poor control system

Yet, once you're on foot, *Redline* demonstrates how tragically bereft of innovation and raw spectacle it truly is. The 3D engine is weak, featuring a bland mish-mash of uninspiring architecture and dismal colours, only outdone by the primitive nature of the texturing. Add to this the unconvincing animation, enemy-lite levels, linear and unimaginative mission objectives, and you have a game that, despite touting two of the most bankable commodities in gaming, somehow conspires to be less than the sum of its parts.

Edge rating:

Four out of ten

UM JAMMER LAMMY



If your guitar skills aren't up to scratch the music and scenery begins to distort









The twoplayer cooperative mode (above left) and its competitive equivalent (above right) go some way to promoting welcome longevity

Format: **PlayStation**

Publisher: **SCEI**

Developer: **In-house**

Price: **¥5,800 (£30)**

Release: **Out now (Japan)**

You have to admire the surreal absurdity of the *Um Jammer Lammy* world. The situations the eponymous Lammy (guitarist in the band MilkCan) finds herself in as you help her reach the town's concert venue in time for her band's gig are not only ludicrously diverse, but probably only conceptualised with the assistance from rather strong – and possibly illegal – chemicals. The whole experience is a psychedelic voyage into the unexpected; there's little way of knowing where the next challenge is going to take the likeable songstress.

Unfortunately, like its predecessor *Parappa the Rapper*, the experience is not a particularly long one, with most gamers probably able to reach the final stage in a couple of sittings. Unlike *Parappa*, however, SCEI has instigated a couple of twoplayer options to inject a little extra life into the experience. You and a friend (or the CPU, should you fail to persuade someone that this is actually a good game despite the lack of polygons) can take part in engagingly cooperative or competitive rounds, which open up progressively alongside advancements made in the oneplayer game.



Reach the 'cool' ranking and play with Hendrix-like abandon

The musical repertoire may be a far cry from the former game's obsession with rap, delving into the realm of funk, pop, rock, and even the unclassifiable, but *Jammer Lammy*'s principle and structure remain identical: you have to match your musical opponent note for word before progression is granted. The reason for the different musical content lies in the fact that rather than singing her way through the levels like Parappa, Lammy relies on her guitar skills as an effective way of repositing her adversaries' lines. Not only does this enable a more eclectic collection of rockin' tunes to be included, but it also means that effects such as distortion and wah-wah pedals (rewards for successfully completing stages) can be used to add a little variety to the melodic extravaganza.

Ultimately, just like *Parappa* and *Bust A Move*, *Um Jammer Lammy* cannot hope to match the depth found in most of the more established genres. Nevertheless, it remains an entertaining, occasionally tempting, and altogether mind-boggling alternative for those more naturally drawn to fighting and driving games.

Edge rating:

Six out of ten











The cut-scenes linking one musical challenge to the next contain wonderfully bizarre elements as well as Rodney Greenblat's superb characters

DUKE NUKEM: ZERO HOUR

Format: **Nintendo 64**

Publisher: **GT Interactive**

Developer: **Eurocom**

Price: **£40**

Release: **May**







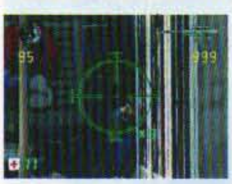
***Zero Hour* takes in a variety of locales, from outer space to Victorian England**





The game features a snazzy line in poster art – the 'original' *Turok* features here (left), while much of the heavy artillery is borrowed from *Turok 2*







While Jack the Ripper does the rounds in Whitechapel, Duke is waylaid by the zombies that shuffle out of the fog (centre)

If nothing else, the mildly diverting *Time to Kill* (7/10, **E**64) proved that the *Duke Nukem* series could quite comfortably function in thirdperson, being geared more towards *Doom* than *Tomb Raider*.

It's somewhat ironic, then, that Eurocom (which has spent a large proportion of its time on the N64 converting age-old PC and arcade titles like *Hexen*, *Mortal Kombat Trilogy* and the original *Duke Nukem)* should opt not to convert *Time to Kill*, but to build up its thirdperson *Duke* adventure almost entirely from scratch. Admittedly, around half of the level ideas have been carried across, but *Zero Hour* is a very different game, not least because *TTK*'s awkward and unconvincing platforming has been completely discarded. This new version is something more akin to the traditional *Duke* games.

Certainly, as action commences among the towering skyscrapers and neon glow of the city, it's difficult not to recall the opening level of the original *Duke Nukem*. This is merely a gentle introduction, however, as *Zero Hour* quickly hots up. As in *Time to Kill*, Duke is plucked from one point in history and placed in another, leading the Expansion Pak-led visuals to play host to a series of dazzlingly diverse environments, including the Wild West, medieval Britain, outer space and an N64-specific, and purposely fogged, Victorian England, where Jack the Ripper is playing havoc among the lovely ladies of Whitehall.

The 3D camera is so effective it makes moving around completely problem free. When Duke slides up against a wall, for example, his head fades out and the game switches to firstperson, eschewing the need for a frustrating *Tomb Raider*-style camera adjustment. Getting to grips with *Zero Hour* is laudable, but more than that, it's a mindlessly enjoyable romp. With weaponry straight from Turok's own rifle cabinet – including a shotgun that can blow off individual limbs – and armies of, admittedly fairly cretinous, enemies. It's not so much the depth of the challenge as the length. Without doubt, there's no subtlety but, then, with his pernicious one-liners (of which they are *many* new examples herein) and unshakeable shades-and-vest combination, Duke was never really concerned with acumen.

Added to the arsenal is a solid multiplayer game set across 13 arenas, of which at least half are excellent. As a deathmatch, it feels steadier and more convincing than in *Turok 2*, but never threatens to topple *GoldenEye*'s fourplayer head-to-head. That said, the arenas are intelligently mapped, with almost every one working in a tightly structured circle, minimising aimless wandering and maximising the use of freeze guns, pipe bombs and sniper rifles.

Which leaves *Zero Hour* as an undemanding but affecting hybrid of *Tomb Raider* and *Turok 2*, and one that confirms Eurocom as a developer to watch out for.

Edge rating:

Seven out of ten

THE HOUSE OF THE DEAD 2



Much of *THOTD2* is utterly gruesome – arms, heads, chests and other zombie body parts can be blown apart in glorious Naomi-faithful quality







Format: **Dreamcast**

Publisher: **Sega**

Developer: **In-house**

Price: **¥5,800 (£30)**

Release: **Out now (Japan)**







In addition to the ten training missions (three of which are shown above) Dreamcast *THOTD2* also lets you practice against any of its end-of-level bosses

The problem with lightgun games, particularly when they happen to be direct coin-op translations, is that they're not designed for extended play, which makes them unsuitable for today's depth-hungry console gamers. Such experiences are more at home in the environment of the contemporary arcade. Yet, *The House of the Dead 2* makes a significant attempt at offering an impressive dose of longevity, mainly through the use of various alternate routes through its levels, which means that even after extensive play it's possible to happen across a hitherto undiscovered alleyway, pass through a secret passage, or even discover a room you haven't visited before. It's a question of your performance, of course, and while some pivotal moments may lead to handy shortcuts offering less zombie resistance, others can make life a little harder.

Of course, had Sega delivered merely a direct conversion of its enjoyable horror coin-op, this would have been a disappointing title. But, regardless of the fact that this conversion equals its Naomi-powered bigger brother with apparent ease, both in graphics and sound quality, Sega has lumped in a bundle of extras. An 'original' mode allows you to select two bonus items (from a list featuring those attained in the arcade game) in order to help you on your turbulent journey. It's a structure that works surprisingly well and it's highly likely that you'll find yourself playing this on a more regular basis than the arcade mode.

Also exclusive to the DC are ten training missions which, although a little harsh in their level of difficulty (depending on how far away from your television you sit, of course), at least have the advantage of turning the arcade mode into a comparatively easy experience.

Naturally, you can use the standard joypad (complete with sight onscreen) – the analogue thumbstick providing surprisingly effective results – although for true arcade-recreation purposes, only Sega's specifically designed gun will do. The ergonomic, futuristic-looking white plastic unit fulfils its function with aplomb, and with a Puru-Puru Pak attached, makes some attempt at providing recoil.

The House of the Dead 2 may never glue you to a TV for hours on end, but it does offer a faithful recreation of a coin-op (sparkling graphics and all) that's still relatively new to the arcade scene.

In some respects this is the quintessential videogame: easily accessible, rewarding, and heavy on style. Come to the party expecting no more than instant thrills and you'll enjoy every minute.

Edge rating:

Seven out of ten





Throughout the game you'll encounter individuals requiring your help. Hesitate (or miss) and you won't get potentially helpful items in return

SN Systems: Seeking IDE solutions

Bristol-based SN Systems Software has a good relationship with Sony. Very good, in fact, having generated the SDevTC development kit that ships to every existing PlayStation developer (see News, **E**70). With the next generation Sony console waiting in the wings, the company – headed up by directors **Andy Beveridge** and Martin Day – is already hard at work creating a fresh set of programming tools to smooth the complexities of creating 16-million-polygon games. **Edge** caught up with Beveridge to discover more…

Edge: What is SN Systems' key skill?

AB: SN Systems is always about fast turnaround in development. Our first product was an assembler which was several hundred times faster than anything else out there. We want to get the development cycle down as short as possible, and one of the best ways to do that is incremental linking. It's something Microsoft has been doing for quite a few years, but to do it you need to have pretty good control over the way the build goes, so we need use our own linker.

Edge: Is that something you're working on right now?

AB: That's something we will be working on this year – it's not going to be in the first release, it's a longer-term plan. We're aiming to have something working internally for May. Initially, we've just got to get the *Win32* version of the GNU compiler together, and have our own backend assembler and linker just to give us control over the file formats and a slight edge on speed. We'll be bundling that with our integrated development environment [IDE] and debugger. The whole point of the IDE, really, is to host the debugger. The IDE does contain a text editor and a graphical build manager, but a big point of the environment – because that's where developers spend an awful lot of their time – is debugging.

Edge: What are the specific challenges of creating an IDE for the next generation PlayStation?

AB: We've got to provide debugging facilities not just for the main CPU but for the vector units [VU] as well. Debugging those units is not nice – they're subject to all sorts of pipeline 'gotchas', so you have to be very careful with them.



Directors Martin Day (left) and Andy Beveridge (right) are busy facing up to the challenge of creating an IDE for Sony's next generation PlayStation… but it's largely a debugger's life

Edge: Is that due to having such a high throughput?

AB: And because it's not a general purpose processor. It's specifically aimed at the graphical functions and the 3D functions; it has to perform the floating-point math. It's more like a DSP than a regular CPU. It has a rather odd instruction set and a very streamlined pipeline, but the result is that the way the pipeline is used is critical. Sony's solution to this is to provide a simulator for the VU. The problem with that is that it's not real time – there's no substitute for running your code on the real thing.

Edge: So how long have you been aware of the next generation PlayStation and its challenges?

AB: We've had full English paper specs – thorough specs of how all the chips work together – since November '98.

WorkStation

When **Edge** visited Sweden-based Digital Illusions, it simply couldn't pass by the perpetually cheery **Olof Gustafsson**, musician and sound effects artist responsible for the atmospheric music on all of the company's titles to date (*Pinball Dreams* and *Pinball Fantasies*, to name but two), who is currently composing for *Rally Masters*

Bank of sexy synths "The main sound department, where nearly all the sounds that are used in a song are produced and programmed"

Texas Intruments Speak'n'Spell "This is a speaking language learning box from the late-'70s. I'm still learning the English language, you know, haha"

Main computer system "This is a PC stuffed with juicy sound equipment. It's the heart of the system"

Essential kit "These bits and pieces help out with the final mix of a song. It's good to have a few friends around"



Members of the development community (sane or otherwise) are invited to email WorkStation submissions to **edge@futurenet.co.uk**

Hulking great metal-clad box "A good ol' tape recorder, for making copies of my music to send to grandma"

Cherry-red keyboard "This synthesiser is one of my sweethearts, not just because of its extremely good looks, but for its quirky bass sounds"

Prehistoric computer "An old relic Macintosh. It's only used to edit PlayStation sounds and for making sounds for PlayStation games"



The trials of a start-up developer: part nine

After co-founding Lionhead Studios with Peter Molyneux, Demis Hassabis set up his own development house, Elixir Studios. This month the steadily growing team relocates to altogether loftier heights...

Moving on up

"Having finally signed the deal with Eidos, we could now take possession of our new office just in time for the New Year. We'd been stuck in a serviced office in Cricklewood for six months and we were ready for a change of scenery – any scenery in fact. 'The Cave' had served us well, but you can only work without windows for so long.

We'd decided that we wanted to be based in Camden, in North London. It's an unusual place, unlike the rest of London, and has a very distinctive vibe. Imagine a chunk of Glastonbury permanently based in London and you'll know what I mean (without the mud, thankfully). There's a great energy to the area and it's slightly weird at the edges, so we thought it was somewhere we could fit in. Unfortunately, there's a serious lack of good office space and Joe had spent the autumn trawling the area for something decent, without much luck. Just before Christmas, he finally found something.

or possibly worse. Of course, if we were programming spreadsheets or doing something dull we'd instantly be 'respectable'. We seem to be in breach of the law that dictates 'Thou shall not have a fun job.'

We've been adding people to the team at a steady rate. Unfortunately, that's only been about one every two months. The industry as a whole is undergoing a period of tremendous growth and now there simply aren't many talented people left! We've added two more people in the last few months, both of whom are female – which in this industry is a rare thing. I was hoping this might have a knock-on effect on overall office standards of personal hygiene, to no avail, but then perhaps some things in this industry really are sacred. Sue Chapman's job is as office manager/mother hen and having her on board has really helped the running of the place. I was a little concerned that she might find our humour too 'robust', but was relieved to discover that her command of schoolboy innuendo and downright filth is as good as the rest of us. Our other new

"We seem to be in breach of the law that dictates 'thou shall not have a fun job'"

The new office is set back from the road, between Camden High Street and an adjoining road, two minutes' walk from the tube station. Whereas the last place was about 800 square foot, this is 3,000. In other words, there are 12 of us in an office for 30 or 40 people. All of which means a couple of desks huddled in the corner of an aircraft hangar. We've temporarily resolved this by creating a basketball court at one end. With stripped wooden floorboards and skylights, the contrast with the last place couldn't be greater. The morning I took everyone to the office for the first time was a great moment. I really took pleasure from seeing the excitement on peoples' faces. It was a taste of what we're working towards.

The building is owned and shared with the Variety Club, a charitable organisation. We got very excited when we heard that of their 30 employees, 20 or so were women. Middle-aged women, as it turned out, which was a bit of a disappointment. I think they're a little bit scared of us. It reminds me of a story that used to run in the comic *The Eagle*, called 'The Thirteenth Floor', which involved an elevator and a door to another world. Our version of this involves a twin-set-and-pearls type accidentally stumbling upon a dark stairway leading to a shadowy hallway. Walking in, peering through the gloom, she sees 12 blokes cheering another as he attempts to climb from one side of the office to the other along one of the rafters. It's not the Variety Club, she realises, as she edges nervously towards the door. I suspect they think we're up to something vaguely subversive

recruit, Vicky Mann, is a programmer with a difference, having taken a degree in psychology. Our initial games will use a lot of artificial intelligence, and having her experience will, I hope, give us some really interesting insights into this area.

The next few months are a critical time for us. The time for delivering will shortly be upon us and, not surprisingly, we've got our noses to the grindstone. Over the next few months or so we'll be showing a prototype of our first game to the press. It's an anxious time for us right now and the nights seem to be getting longer. Tim and Dave appear to be enjoying themselves so much that they've decided to live here. Those cool autumnal *Starcraft* sessions have become a thing of the past. Nothing in life is ever guaranteed when you're doing something creative. Everyone who does something like this has to passionately believe that it's going to be great, otherwise they won't be able to do it. But you've also got to be objective and critical about your own work. If you aren't, then you run the risk of producing something ill-conceived like 'Manilow sings Sinatra' or 'The Avengers' – wonderfully self-indulgent, but creatively and commercially pants. You can't let this scare you off (the challenge, that is, not Barry Manilow), but you've got to be duly respectful. When the time comes, I'll be taking you through the game in detail and describing everyone's role in this process. In the meantime, you must excuse me, as another one of our neighbours seems to have wandered accidentally into development hell."



Elixir's new premises – perfect for monkey-swinging and the odd spot of basketball. But how will it serve as the base for a bunch of unruly creatives? Time will tell



Edge moves

Programmers, artists, engineers, producers, animators, project managers – they're all essential to the industry, and they all read **Edge**. The following pages carry a phenomenal variety of jobs for graduates, professionals and any other interested parties who think they could make it in the videogame scene. Apply within...



Photography: Jude Edginton

FEW DEVELOPERS CAN BE SMALLER THAN THE LATEST SPLINTER GROUP FROM BULLFROG – BUT THEN THESE ARE EARLY DAYS FOR A TEAM WHOSE COMPELLING APPRECIATION OF CREATIVITY AND ORIGINAL IDEAS SPEAKS MORE THAN SHEER SIZE EVER COULD

an audience with...

lost toys



1 Darran Thomas 2 Glenn Corpes 3 Jeremy Longley

It would appear that Bullfrog has unwittingly become the spawning ground for some of the industry's hottest break-off outfits. Previous departees Mucky Foot (current project: *Urban Chaos*) and Lionhead Studios (*Black & White*) are now joined by Lost Toys, currently a three-man outfit comprising **Glenn Corpes** (coder; CV highlights: *Populous, Powermonger, Magic Carpet, Dungeon Keeper*), **Jeremy Longley** (coder; CV highlights: *Theme Hospital, Syndicate Wars, Populous III*) and **Darran Thomas** (artist; CV highlights: *Theme Park 2, Magic Carpet 2, Dungeon Keeper*). As **Edge** recently discovered, the fledgling upstart has some refreshing approaches to development...

Edge: How did you go about putting together a break-off team?
Jeremy Longley: As it turns out, the three of us have been in the pub every Friday night. We've been good friends – drinking partners, if you like – for years. For the last three months I've been worked off my feet arranging the business side of it, and I've only just got together with Glenn and Darran to form the company.

Edge: Were you spurred on by the whole break-off trend?
JL: It's encouraging to see other people doing it successfully, definitely; it proves that it can be done. It's a risky business, but once you collect together enough talent and experience, then it cuts the risk down significantly.
Glenn Corpes: I don't think that it's a trend, particularly; I think it's sort of cyclic. People split off, and then publishers buy them back after a while. Lionhead started up a year ago, Mucky Foot was set up two years ago, and both were created for similar reasons, so it's hardly a fashion thing.

Edge: We haven't yet seen any finished products from those companies you mention, so in some respects there's still a lot to prove...
JL: Well, we've still got to write a game – that's the point, we're here to write games. We want to make games that people will want to play and enjoy – and buy – hopefully.

We see a lot of teams producing really ambitious games, they want to take on *Half-Life, Tomb Raider* and *Zelda*, they're going to go for it and produce the biggest, most impressive game. And then there are games that you can write that are fun, that are worth buying, but that are easier to write. You don't *have* to take on every aspect, you don't *have* to be a leader of technology, a leader of game design and a leader of all the other things to make a game that's good and fun, and absolutely up-to-date and worth the money. So, if you make life easy for yourself, then you're only helping yourself out. There are a lot of risks involved in setting up a company, and if you can eliminate some of them by taking one particular aspect, using something that you've learned, some game design skills, you can put those together to make it easier.
GC: It seems as though a lot of companies that set up have got the best people, they've got a lot of technical expertise and they want to prove to their publishers that they can technically keep up with the best – I think every small company wants to be another id, basically – and it seems that we've got game ideas that don't require us to prove ourselves technically. Don't get me wrong, though – we can do the technical stuff. For the last year and a half, in fact, Jez and I have been working on stuff which is groundbreaking 3D technology, using level-of-detail stuff straight out of last year's Siggraph-published research, and rigid-body physics which is up there with the likes of *Carmageddon*. EA was into the fact that we had this cool graphics technology, but the producer and designer types there were more worried about storyline and character design than the basic, original gameplay category. It's actually easier to be original than it is to be the best in one area. We believe that the differentiation is as important as originality, and more important than proving technical ability.
Darran Thomas: We definitely want to compete on a creative level rather than a technical one. We don't want to get into a bullet-point war – y'know, fastest 3D engine, etc – we want people to play our games, and rather than thinking, 'Well, that's a really flash 3D engine', we want them to think, 'This is really fun to play'. That's definitely what our emphasis is going to be when making our own games.
JL: One of the things we're going to do right from the start is get something that's fun to play. Generally, you write an engine, then you have to write 3D navigation, and then AI, before the game is fun, and if you're a year down the road and you haven't even worked out whether your game is fun or not, then you could be in all sorts of trouble. The first thing we do is whatever it takes to make the game fun – so you can pick it up and play it. After that you work on whichever groundbreaking pieces of technology you need to actually bring the game up to market speed.

Fundamental fun

Edge: It sounds like you're scaling it down to its fundamental components, ie, the fact that it's enjoyable to play. Does this mean that the lead time is going to be shorter and that the team doesn't need to be as big?
JL: That's the idea. There may be games where we'll have this cool concept, but it does need a really solid 3D engine to pull it off, and obviously that's going to push your time.
GC: Some start-up companies have had to get in so many people just to get the first game out of the door. In a way, this is an experiment to see if this approach can work. We're pretty sure it can.

Edge: So you're saying you can get a game out between the three of you?
GC: No, no. [Laughter]
JL: It's hard to put a figure on it, and such a figure would only be wrong, but you should be able to get the core aspect of any game with between half-a-dozen and ten people. If you've got extra-special things that you need to make the game look great, then that's cool. If you want to do *Final Fantasy VII* and have over 100 artists working on it, just to give it depth and to expand the game, that's cool as well. But it doesn't take 150 people to get the core content of what the game is, and once you've got that core content you can make that judgment on how much more you need to do to bring the game to fruition.

Edge: In terms of fleshing out the games you're working on, have you got a longterm goal for staff count?
GC: I think we'd like to keep the company under 20 people for a while, and it won't be as many as 20 for a long time – we'll be lucky to be ten-strong after a year. I'm sure this can still work – stuff like *Quake II* was done by a team of 15, including management, but without using that as a reference, the games in production at Bullfrog at the moment always have at least 20 people before the end of the project. We did *Magic Carpet* with about six or seven in total, and we did *Populous* with two. Sure, that was back then, but there's no really compelling reason for teams to get that big. When a team gets to 15 programmers, probably five of them aren't going to be programming any more, they're just making sure that people are able to work together. And you'd probably find that a team of 15 programmers doesn't really do much more, at the end of the day, than a team of five programmers who actually care about what they're doing. Maybe we're being slightly idealistic, but we're pretty sure we can make it work. In fact, we can definitely make it work this way for our first game or two.

Edge: But surely the advancement of technology necessitates bigger teams. The NGPS specs suddenly present enormous scope for massive technological undertakings...
JL: At first glance, the specs make it look like you can do many more things, but does that mean that you have to fill the DVD up?

Core elements

Edge: It's not really about the storage medium, though, is it? It's more a question of what the core hardware can do.

JL: But doesn't that make development easier?

DT: From an art perspective it definitely makes it easier, because currently you've got to be a lot more disciplined with the PlayStation and even PC, with the way you handle textures, etc.

GC: You probably won't even count the polygons as you model.

JL: We're not trying to be machismo about being a small company; there's nothing macho in writing a game with three or four people – I mean we'll do what it takes – but the smaller the team is, the more involved each member is, and if you can keep it smaller, everyone can focus. If you turn up with an idea one day, you've got the flexibility then to spend a couple of months trying it out, to see if it fits in with the game.

GC: Also, Darran was lead artist on a team of 12 on *Theme Park 2*, so we'll probably have a team with more artists than programmers pretty quickly, and there's a lot of stuff in *Populous* and *Magic Carpet* which looks like artwork, but was actually generated by code. The landscape in *Magic Carpet*, for example, was just a few hundred lines of code, and it looked like months of work for an artist in *3D Studio*.



"IT'S EASIER TO BE ORIGINAL THAN IT IS TO BE THE BEST IN ONE AREA. WE BELIEVE THAT THE DIFFERENTIATION IS AS IMPORTANT AS ORIGINALITY AND MORE IMPORTANT THAN PROVING TECHNICAL ABILITY" GLENN CORPES

That's another thing I'd like to focus on, which is something I did in the early days of Bullfrog. With *Magic Carpet* we had a fairly primitive fractal landscape generator, with a slightly sneaky routine for sorting textures, but we can take that further. The last thing I did for Bullfrog – I don't know whether or not they'll do anything with it – is a system that did quadratic curves with lumps. I mean, we won't be using this in the first couple of games, but that's pretty interesting because it was generated by code. The only artwork was a bunch of bump maps, and everything else was done with code. There's cool stuff you can do with code, and it will also make your stuff look different from everybody else's.

Edge: What do you think about accusations levelled at PC programmers suggesting that the format encourages laziness?

GC: That sort of thing comes from conversion programmers, because they manage to squeeze a 16Mb PC game into a 2Mb PlayStation. It is laziness, and it's a problem with having big teams. I don't think the PC *encourages* laziness, it's just that you have base PCs now with 16Mb, possibly 32, so that becomes the development standard. I think the term 'laziness' is a bit unfair.

JL: There's still a strong PlayStation market, and there will be for some time to come – PS2 isn't going to hit until late next year sometime. We're still very aware of the limitations of the PlayStation, and if there's any truth in the claim that programming on the PC makes you lazy, then we're trying to avoid that anyway. I mean, what you can do on the PlayStation – if you've got a fun, tight gameplay concept that's going to work – then you can do that on the PlayStation, on the PC, on Dreamcast *and* PlayStation 2. If it's a good gameplay concept you can look to expand it for whatever technology you've got available. It's pretty much the philosophy we're using for our first game. We'll do the PlayStation version, and the PC version, and see what happens after that. The fun element doesn't change from console to console.

Design for life

Edge: You're programmers and an artist by trade, but you're talking like designers. Why haven't you got a designer on board?

GC: We are all designers.

JL: That's the point about having a small company, really. If you're in the games industry, you can either take a completely sort of professional 'I'm paid to do this' role, where you do your nine to five and go home. That's not me, and I don't think that's these guys either. I've been playing games and programming computers for 15 years. I've always wanted to write games – writing games means creating games. Now I program, that's the skill that I have, but that doesn't mean that I can't design games, and that's why we're here.

DT: That's another problem with bigger dev teams. Because they want a production-line thing you start to get pigeonholed in your skill; if you're really good at engines, or 3D characters, for example, you tend to get pigeonholed. Now we three like to be involved in a bit of everything from start to finish.

GC: Peter [Molyneux] is a great game designer, but he does it as a programmer and not as some guy who sits there with a piece of paper and lets the brains of the team go off and do the work for him.

Edge: Overlap is a good thing from your perspective, then.

JL: Absolutely – then you understand each other. There's nothing worse than saying, 'Well, Darran, look at this great bit of coding I've done, now all you have to do is build some meshes for it,' because he's going to go, 'Huh?' That's not going to work. You have to understand everyone else's role.

GC: There is quite an overlap. Darran and I keep quiet about it, but he's quite technical for an artist. He knows how to program in BASIC. [Laughter] And I was an artist myself, I did the graphics on *Populous*. I was a programmer before, but I got a job as an artist and then moved back to programming later. Jez is a musician as well, so if you *could* get away with smaller projects requiring only three people, then we'd probably be the three guys to do it.

The interesting thing about Jez is that you need somebody who writes the game stuff, which isn't so much about *'How do I do this?'*, it's more of a *'What do we do?'* It's much simpler code, it's more about structure and it's easy to maintain, although it's not technically difficult to write the AI (which I think is a misused term – AI seems to mean anything that isn't the graphics engine or the sound) – it's actually very simple. And you need the kind of programmer who can focus on that and get a kick out of it. Most of the programmers who I've got a lot of respect for are techy 3D heads, and a team of techy 3D heads can't write a game. You only have to look at Scavenger with *Into the Shadows*. That was all written in pure assembly code, and they suddenly realised that they had to write a game at some stage. This is a problem that some teams fall into.

Edge: If you aren't going to take on the likes of *Half-Life* and *Quake III: Arena*, for example, what sort of games are you going up against?

DT: Well, that's part of the point. We don't want to simply *'do a Half-Life'*, because you're just taking their idea and improving on it.

GC: We don't need NURB-rendering engines to prove a concept. If we had no better ideas than simply doing *Quake*-with-a-story, or whatever, then we wouldn't be talking about this, because we'd be saying, 'Shit, we've got to make sure we have five passes of textures and the best navigation AI ever seen in a game'. But our ideas have very few dependencies on technology, they're more dependent on 'Try it, see if it works'.


FOLLOW
ONG VEHICL

"IF YOU'RE IN THE GAMES INDUSTRY, YOU CAN TAKE A PROFESSIONAL ROLE, WHERE YOU DO YOUR NINE TO FIVE AND GO HOME. BUT THAT'S NOT ME, AND I DON'T THINK THAT'S THESE GUYS EITHER" JEREMY LONGLEY

Natural selection

Edge: So without a bunch of suits upstairs telling you what they perceive will and won't work, how do you decide which ones to proceed with?

JL: The thing is, if you follow this philosophy it doesn't take long to come up with an expression of an idea, which you can see and play. If you get enough people together that play games with you, who understand what games can become and that can appreciate an idea without having to see all the flash trimmings that go with games nowadays – and that might only be three or four people – you should be able to see this at that point. If you can't see the game idea after a month, then it's probably not worth doing. Unless you're taking another angle, which is to make all the technology and the game will follow, but that's not what we're going to do. With a prototype of a game, if it's not demonstrably fun, then we're not interested.

Edge: Surely, as soon as you sign to a publisher, you're immediately bringing the suits back into the equation.

JL: You are, but what you have is enough of a core game concept, that we all agree with, and that's what we have to pitch – it's this game we believe in. And if people don't like it, then we go to someone else. We come up with a game that we want to do, and we find a way to do it.

GC: We have enough confidence in the game ideas to hopefully get a publisher and give the impression that they're not going to be able to change stuff, and I don't think publishers do that with external development as much as they do with internal, unless a





team has been commissioned to write something a publisher wants. Maybe I'm harking back to the old days, but there was very little involvement from EA at Bullfrog or from any of the external producers at EA. In fact, there never has been much involvement from EA at Bullfrog, it's more to do with the way that Bullfrog has changed internally. And the company's changed for the better in a lot of ways because it can make hugely ambitious, really polished projects like *Theme Park 2* and *Dungeon Keeper 2* possible.

Edge: Because of your background, are you consciously moving away from the perceived Bullfrog style of product, ie, god games?

JL: It's really just a case of releasing shackles. Bullfrog was good at god-style games, but we're a new company, so we can do whatever games we think are the best. If we wanted to do a god game, we'd do a god game.

Edge: Do you *want* to do a god game?

GC: To be honest, the first game is not the kind of game you'd expect from Bullfrog. The second, possibly, is more Bullfrog-esque, although there's no concerted effort to do this.

Edge: It's not *Flood 2*, is it? [Laughter]

GC: We're trying to focus on original fun, core gameplay mechanics, and it seems to be that a lot of this industry is confusing groundbreaking technology and a cool storyline with originality. If you look at the kind of risks that were taken in developing games on the 8bit and 16bit formats, they were a lot more original. It was like, 'Shit, I'm doing this suddenly weird thing that no one's ever done in a game before', and, okay, some of their ideas were more subtle in those days. Okay, sometimes they were crap, but some were the coolest games ever.

Edge: The keywords you're using are "fun," "gameplay" and "originality," but those three things can't be communicated from the back of a box, which is how so many purchases are made now that gaming is a mass market entertainment concern.

GC: That's an interesting point, actually, because there was a spate of people leaving Bullfrog a few years ago because there were some original game ideas that were canned or cancelled because marketing people didn't think they could sell them. There were certain people who were so idealistic about this that they didn't want to work on projects where marketing could come in and veto them.

I think that's being over-idealistic, though, because there's no reason why you can't be original and also be sellable in the same way as a story and technology-driven game. Just because the idea is original doesn't mean it's some weird niche thing. Why shouldn't there be originality in fully marketed real games? I guess the only reason really is if the publisher wouldn't want to take the risk, but we're the ones taking the risk.

Driving forces

Edge: The problem you have, of course, is that mainstream consumers buy driving games because they like driving games, in the same way that they buy cornflakes because they like cornflakes. Communicating to them and saying 'Here's something you haven't tried before' isn't easy.

JL: [Agitated] But if you take that line aren't you condemning the gaming industry to a life of mediocrity?

Edge: A good example would be *Half-Life*, which is '*Quake II* with a story', as you termed it. In some respects it could sell itself on visuals alone, despite its other merits.

GC: Just because a game's based on an original mechanic doesn't mean that it's an alienating concept to the mainstream. There's no reason why we wouldn't do a driving game, for example. One of the ideas we were throwing around was a driving game, but it was based around a different mechanic. There's no reason why somebody into other driving games wouldn't look at that and say, 'Well, this is actually different to the rest, it's not just environment mapping on the cars that do slightly more realistic skids that makes it even harder to play'. I don't think we're going to do a driving game, at least not in the first two games, but we're not talking about totally alien, abstract concepts here, we're just talking about things that are based around an original idea. We'll do a driving game if we can think of an angle that makes it worth it.

JL: Trying to beat *Gran Turismo* isn't the angle we're looking for. The whole games industry is about fantasy in many ways. I remember growing up, reading articles in *Amstrad Action* and thinking, 'Wow, that's amazing, look at what this game lets you do', and then you get the game and generally you're disappointed. Every now and again you really get into it – *System Shock* was a great game: you went along, you got in there, and you almost neglected the fact that the 3D engine was beginning to look a bit dated because you could get into it, you could really play the game, and… Sorry, I've gone into rant mode.

Edge: What are you going to miss most about working at Bullfrog?

GC: Share options. [Laughter]

JL: No, no, no.

GC: The honest answer to that is playing multiplayer *Quake* over the network. For the last year or so we've been playing *Quake I*, solidly, on one level, about six of us. Two hours a night, every weekday…

JL: No, we'd been there a long time, we'd made a lot of friends, and we still keep in touch with them, but the camaraderie of a games company is as vitally important as any other aspect. We're all good mates, we drink together, and you have to have an understanding of the people you're working with in order to produce a game. As I say, unless you're going to treat it like an accountancy model, a business model – this guys does this bit, this guy does that bit, this guy does the other bit – you have to have a certain amount of flexibility. It's like being in a band in many ways. I've been in many bands over the years and you get to the point where you just know what the other guys are doing.

You don't have to think about it, you don't have to plan or schedule things. When you get to know each other you just make things happen – you get on with each other, you don't have to make a formal proposal, write it down, email it to someone for their approval, get them to send it back – you just get on and do it.

Edge: In two years' time, what do you think you will have achieved?

GC: We'll hopefully be finishing our second game. The timescale for the second game is impossible to state because it depends on how quickly we can staff up and get it in parallel production with the first game.

People business

Edge: How are you going to find more good people? Is it a known-contacts issue or a matter of advertising?

GC: For us, it'll be both, but people have different opinions on this. If you talk to Mucky Foot, for example, the original three guys claim that they all used to live in the same house, and that when they first moved in together, a good couple of years before they left Bullfrog, they were planning it then. Their way of building a team was initally based on association.

Edge: Glenn, you've been working on games for years – how do keep motivated? Does technology drive you?

GC: I'm fairly technology-driven, I suppose. Basically, what happens is that ideas build up that you want to try out and that's one of the reasons I left Bullfrog, because when you're





"THAT'S ANOTHER PROBLEM WITH BIGGER DEV TEAMS – YOU GET PIGEONHOLED IN YOUR SKILL. NOW WE LIKE TO BE INVOLVED IN A BIT OF EVERYTHING" DARRAN THOMAS

managing a project, or managing the R&D department, it's very hard to get programming done. So I've got loads of ideas that I want to try out, some of them graphical, some of them based on other elements of gameplay. In fact, our second game is based on two or three ideas that I really want to just sit down and try out. And the ideas are queuing up, so I get more motivation out of trying these things out. It's just nice to be back doing the stuff rather than sitting in meetings all day.

JL: It's a freedom thing. As I said, I've always had ideas I've wanted to put into practice. That's the way it should be – if you have an idea you should be able to try it there and then, or if that's not appropriate then next week, but you don't want to have to wait. Not every idea you have is going to work, but you have to have the opportunity to try ideas out until you hit upon the one that's as good in execution as it was in your head.

Edge: How are you differentiating yourself from other break-off teams?

GC: I think we're focused differently. I think most break-aways seem to be either technically driven or proving themselves with their first games to their publishers, which means they're taking on really stupid competition head-on, which is not what we're going to do. Maybe I'm being naive here, but you can only guess how other people are thinking when you see their first game come out, and I think our approach is different. But I can't be sure. I've been involved in projects that were very original – I'm not saying I was behind all those things, but I was involved in a lot of them and I know where ideas came from, historically, and I've seen what worked and what didn't work. Ever since *Populous* was a success, after that game we had a very unofficial postmortem – why did it work, etc – and even back then we were arguing about what was cool about it and what wasn't, and I provided theories about what worked and what didn't. And this company's mine as much as it is any of ours, and I want to see those ideas driven into things to try out for ourselves.

Edge: If there are seven different types of story, is there a finite number of game genres?

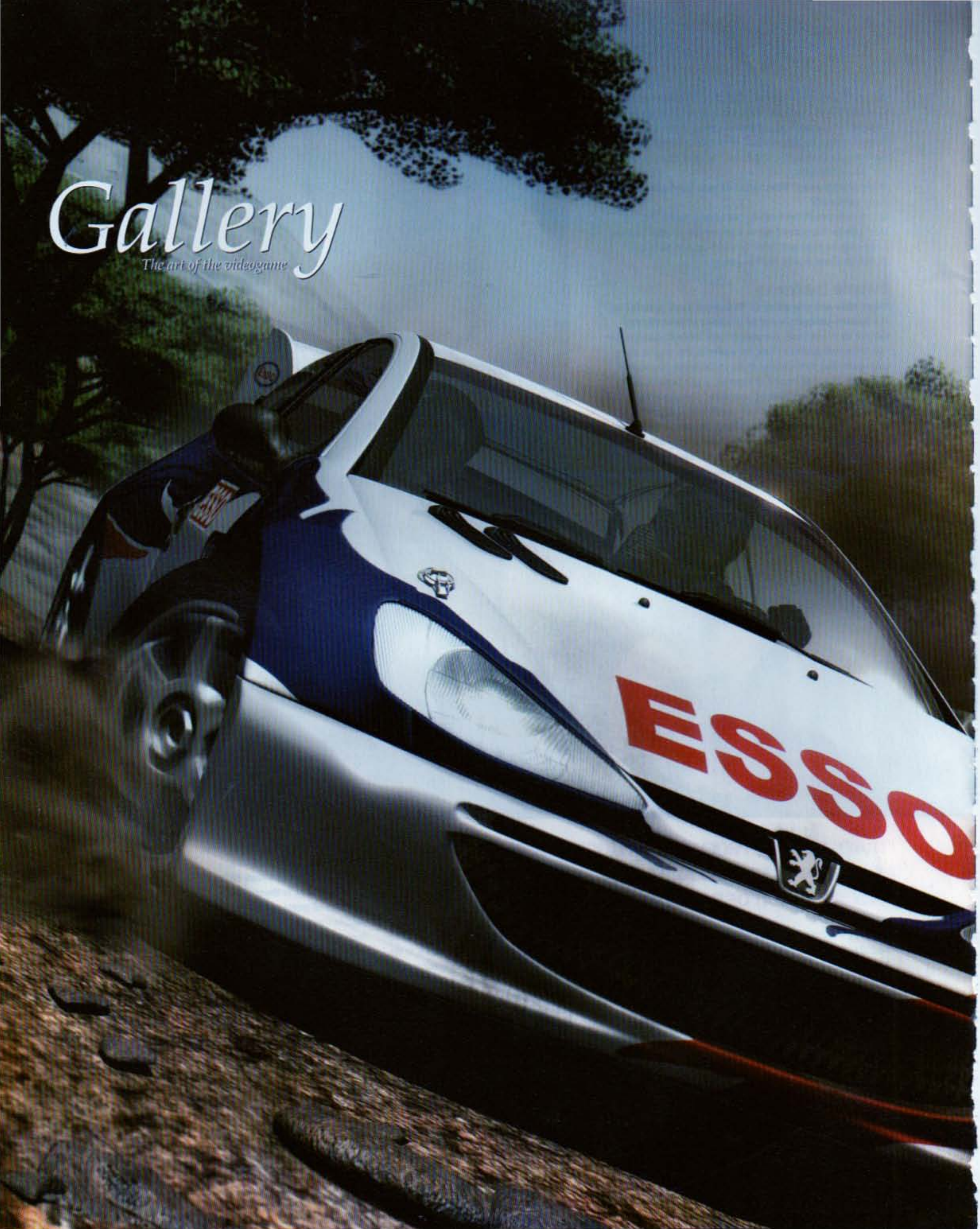
GC: As I said, we're not going to claim we're inventing genres here, but we are tackling things in a different way. If anyone wants to say we are inventing new genres, possibly somebody might look at what we're doing and say it's different enough to really stand a mile apart from anything else, but we're not going to say we're creating something as different as *Populous* was in its day.

DT: If you call mixing genres creating a new genre, then that's more like what we're doing.

GC: Well, 'mixing' is perhaps the wrong term. Over the years people have tried to mix stuff and it just hasn't worked. We did it ourselves years ago, trying to mix a puzzle game with a shoot 'em up and the result was *Fusion*, which failed. So we're not talking about mixing stuff, we're talking about picking up an idea and running with it. ■

Gallery

The art of the videogame



Infogrames is determined to pull ahead of its driving-game rivals with this, the rich-in-potential *V-Rally 2*, which provides challenging terrain over 92 tracks in 12 international locations. To achieve the highly realistic look of the Peugeot 206 World Rally Series car in this render, the image contains more than a million polygons, 100Mb of textures, and was rendered up to 6,000x6,000 pixels.

Image rendered by **DigiMania Limited**, a member of Digital Animations Group plc, using *Lightwave 3D*









The starkly futuristic world of Eidos' *Omikron*, previewed this issue (see p36), features dark, intensely atmospheric exteriors and interiors such as those shown on this page. Between 50 and 100 motion-captured characters are included in the neon-lit street scene, while *Lightwave 3D*'s Steamer and Puppet Master features were used to enhance the smoky stripclub locale and gyrating dancers.

Images rendered by **DigiMania Limited**, a member of Digital Animations Group plc, using *Lightwave 3D*

SILENT SCOPE

KONAMI DROPS THE BEAT AND AIMS FOR A DIFFERENT TARGET

Developer: **Konami**
Release: **TBA**
Origin: **Japan**









The skilled sniper needs to be able to shoot accurately in different situations. The Hotel Imperial is a time attack mode (above). A shooting range for training is also included (left)



It's not just 'vicious criminals' that will find themselves in the cross-hairs of your gun. Fast jet pilots who work for evil terrorist groups are fair game, too

It was only going to be a matter of time before the general gaming trend for realism infiltrated the arcade. The closest the cartoonish coin-op world has got to the concept, however, has been specialised cabinets such as the one for *Get Bass*. Still, after its work on rhythm-based controllers, Konami's R&D labs must have been shocked to receive the brief for *Silent Scope*. 'You become a sniper to shoot vicious criminals,' is the official explanation. Based on a full-size assault rifle with a telescopic sight mounted on top, *Silent Scope*'s gun is a fearsomely realistic controller.

The rifle is integral to the gameplay, though. A magnified version of the action on the external screen is displayed on the small monitor inside the scope. Scanning for hostile elements, you have to be quick and accurate when shooting. *LA Machineguns* this isn't – ammunition is limited and enemies will shoot back. Health levels can be recovered by shooting the medi-kits that appear throughout the game.

Each of the stages takes place in a number of different environments. One of the more advanced involves firing from a helicopter in true SWAT team style. During night levels, players are provided with an infra-red scope. Targets can be identified by the heat from their cigarette tips.

Three modes are offered: training, time attack and story. In the training mode, players simply have to shoot criminals while avoiding civilians. The time attack stage relies on the speed of acquiring and hitting targets. One of these levels requires players to shoot three targets who appear at any one of 40 hotel windows. The story mode sees the player protecting a presidential convoy from terrorist attack. Hostages also have to be protected and rescued. This mode generates multiple endings, each with different bosses, such as helicopters and aircraft, to overcome.

Having quietly demonstrated the game in London, the US and Japan, Konami has already received excellent feedback. Its public awaits…





The cabinet features a full-scale rifle with a magnifying sniper scope

METAL SLUG X

SNK RELIES ON THE ENDURING CHARM OF 2D SHOOTING

Developer: **SNK**
Release: **TBA**
Origin: **Japan**





***Metal Slug X* positively revels in its enormous, mechanical bosses, providing fast and furious gameplay to keep you on your toes**

Proving that technology isn't the only factor that drives games forward, SNK continues to develop new versions of its 2D shooter *Metal Slug* series. While Neo Geo Pocket Color owners look forward to *Metal Slug: First Contact*, arcade-goers are preparing for *Metal Slug X*.

Compared to *Metal Slug 2*, however, little has fundamentally changed. New characters can be selected, but remain split between two male and two female options. One of the few things to have been expanded are the item-based elements. Weapon power-ups work on two levels, with the most powerful options being the Big-Shot items. Ammunition and supplies for the *Metal Slug* vehicles are also scattered around the levels, while beneficial food items are another addition. Curiously, for such an unrealistic game, over-eating will cause characters to get fat and move more slowly.



Power-ups are fundamental to gameplay with Big Shot weapons being the most powerful





The basic control system has changed little, however. A is used to shoot, B to jump and C to throw grenades, while a combination of A and B will launch the eponymous Metal Slug.

But while it may not demonstrate a great deal of improvements, this *Metal Slug* iteration suggests that there's still a good deal of mileage left in this cult series.

GIGAWING

CAPCOM TAKES ITS 2D TRADITIONALISM ELSEWHERE

Developer: **Capcom**
Release: **TBA**
Origin: **Japan**

Introduced at February's AOU, *GigaWing* marks an unexpected return to the land of 2D vertical shoot 'em ups for Capcom.

While perhaps somewhat classical in nature, the overall graphical quality is hardly revolutionary. There are new features, however, mostly in the form of the game's Reflect Force system, which enables you to send enemy fire back the way it came, albeit at an increased magnitude, with the potential benefit of rapidly clearing a large section of the screen. The system works on a build-up principle, similar to the super special moves from the company's beat 'em up offerings: a gauge gradually fills up according to the amount of continuous fire button pressing and when full you can unleash all the Reflect Force you can muster (for a limited period of time, naturally).

Six stages are offered, all heavily based on the characters in the game. Should you clear all six without necessitating continues, a seventh level becomes available. The whole thing should last for a reasonably cost-effective 45 minutes.

Intriguingly, rather than targeting the hardcore 2D shoot 'em up market, Capcom seems intent on focusing on the casual arcade player, a fact probably best illustrated by *GigaWing*'s pretty visuals and the accessibility of its simplistic gameplay. It could prove a favourable combination.







***GigaWing*'s Reflect Force feature is a novel addition, enabling you to return enemy fire**







The pretty graphics are intended to attract the casual, rather than hardcore arcade crowd

ALIENS

One of the regrettably few movie licences in videogaming history that actually does its celluloid counterpart justice, Electric Dreams' title is a hugely compelling voyage into suspense, terror, relentless panic and the occasional acid bath





Oddly – and perhaps sadly – Electric Dreams' *Aliens* has been long forgotten. Based on James Cameron's action sequel to Ridley Scott's 1979 sci-fi horror classic, *Aliens* is perhaps one of the most successful movie licences to make the transition to computers. Not necessarily in turnover terms, of course, but in the way the game manages to capture the sense of panic and urgency conveyed in the film.

Naturally, then, you'd expect the plot to remain fairly faithful to its cinematic counterpart: in charge of a sextuplet of colonial marines (Ripley, Bishop, Hicks, Vasquez, Gorman and Burke), your task is to infiltrate the colonists' base (foolishly built on the alien-infested planet of the first film) and look for any survivors that may have somehow escaped the near-inevitable face-hugging/chest-bursting experience.

Controls are relatively simple – either move the cursor over a door and press the space bar to move through it, or instruct a marine to move a number of rooms (one to nine) north, east, south or west while you control one of their colleagues. The top half of the screen displays the room (in firstperson and 360-degree scrolling) while the rest of the screen informs you of the status of each of your marines (health and ammunition levels). Taking control of just one marine at a time – a simple key press swaps between them – means it's vital to keep an eye on the health bars, whose various colour alterations relay conditions, for example, blue indicates the presence of an alien in the same room and action is advisable unless you're happy to let the impregnating process begin (bar turns yellow). Should this happen, you can still save your marine by quickly directing another one to the same room for some target practice. However, as with all firstperson alien encounters, miss and be prepared for a screen full of static.

By today's standards, the graphics look scarily simplistic, yet the remarkable sense of involvement endures as you scatter your marines throughout the base, only to attempt a desperate retreat after aliens have rapidly reduced your unit to a cosier – and panic stricken – trio. The resulting unnerving experience remains rarely equalled even by today's videogames.







Due to the base's numerous rooms, Electric Dreams' game was packaged with a helpful map. The Spectrum version offered better resolution than the C64 version here shown

Publisher: Electric Dreams | 1987 | Developer: In-house | Spectrum/C64/CPC

EDGE VIEW

The videogames world never stands still, riding the breaking wave of advancing technology. In this regular column Edge puts the industry's progress in perspective with a look at yesteryear's headlines: five years ago this month



Edge issue eight, May 1994



***Aliens Vs Predator* was a 'high' point for the ill-fated Jaguar, running in 65,000 colours**

Confusion surrounds Sega's next generation hardware as news of Mars, the Mega Drive enhancement that is to become 32X, filters through. Thirty titles are said to be in development, although where they're coming from isn't clear...

Following **E**7's early shots of Sega's *Daytona USA*, the completed game 'shines' at 1994's AOU. 'Initial reaction was that it's better than *Ridge Racer*,' gasps one caption. And first impressions prove correct as the AM2 racer swiftly gathers a massive international following.

Eerily forshadowing the spring '99 shipment of NGPS development kits, May '94 was the date that Sony delivered its first PlayStation tools, with Capcom and Konami among the premier recipients. NEC is running scared, as rumours that it's considering abandoning its next console, codenamed Tetsujin (Iron Man), abound.

With *Ridge Racer* still the talk of the town, **Edge** invades Namco's Tokyo HQs to unravel the company's secrets. **Youichi Haraguchi**, a general manager in the consumer division, confidently claims that, "We think we can make a 100 per cent translation of *Ridge Racer* to the PS-X." It wasn't '100 per cent', of course, but it set one hell of a precedent.







Concern over the abilities of Commodore's CD32 (top) hardly seems relevant today. *Daytona* at AOU '94 (left) and Shigeru Miyamoto (right)

Did they really say that?

"We'd like Atari to succeed primarily because we're looking for a replacement format." Then-Ocean development director **Gary Bracey** on supporting the ill-fated Jaguar

Did Edge really say that?

'Unlike *Doom*, *Aliens Vs Predator* is more than just an attractive 3D shoot 'em up,' previewing Rebellion's first attempt at the *AVP* license

Testscreens (and ratings)

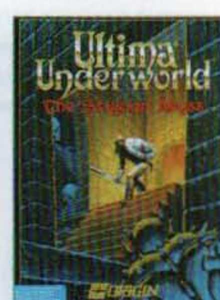
John Madden NFL '94 Football (3DO; 9/10), *Ultimate Tiger* (FM Towns Marty; 8/10), *Tempest 2000* (Jaguar; 9/10), *Virtua Racing* (Mega Drive; 8/10)

PIXEL PERFECT

Every gamer has occasional moments of sparkling excitement, be it the first time *Speedball* booted up, or completing *Sabrewulf*. High-profile gamers are no exception. Core Design's Gavin Rummery remembers a game that 'had it all'

"So there I was, playing *Hired Guns* on my Amiga – the best game I had ever played. I was raving about it to my friend, when he looked dubiously at the screen and went, 'Uh-huh, I'm playing a cool game at the moment, too, come and have a look.' So he booted up his clunky old PC and showed me *Ultima Underworld*. I stood there with my mouth hanging open – I just couldn't believe what I was seeing: a fully texture-mapped 3D environment moving in realtime, the first I'd ever seen. It had it all – a huge detailed plot, loads of sub-quests and puzzles, a massive and intricate dungeon to explore, sword fighting, magic and bags of atmosphere. It was truly great, and I thought, 'This is the future of gaming; this is virtual reality,' and dreamt of the kind of games that I expected to follow. Unfortunately, a bunch of Texans had other ideas, and took over the world with a game called *Doom* – it was like *Ultima Underworld*, but stripped bare of everything but the fancy 3D and action bits. And that was what everyone else copied..."





Lead programmer Gavin Rummery, who worked on both the original *Tomb Raider* and *Tomb Raider II*, found inspiration in *Ultima Underworld*

Kenwood DVF-9010 DVD Player

Contact: 01923 816444

Reviewing DVD players is getting harder month by month. When the first machines arrived, after scratchy old VHS the promise of perfect sound and vision was almost too much to bear. Now, not even a year on, familiarity is breeding contempt, and it's becoming increasingly difficult to differentiate between the different players – particularly considering that most of them have the same engines running inside, regardless of the logo on the front.

Hurrah, then, for Kenwood's latest player, which will shake even the most jaded DVD follower out of slumber. The fantastic built-in surround-sound decoder transforms any Pro-Logic Amp into a Dolby Digital unit and a couple of Virtual Surround Sound formats create 3D effects without requiring you to fork out for a host of speakers. Thankfully, picture quality is also free from artifacts, although you'll probably spend more time gazing at the plainly gorgeous casing. Displaying slightly more curves than Kelly Brook, and a well-thought out panel that slides up and down to reveal the disc tray, the DVF-9010 is a victory of design. Only the over-inflated price tag of approximately £1,000 lets it down.



Schneider Manhatten 2000

***£899 approx. Contact: 0161 374 0101**

You may never have heard of the company before, but German-based Schneider is determined that the Manhattan 2000 system will help it break into the UK market. A magnificent piece of kit, the main 110cm-tall unit – all brushed metal and wood – houses the CD player, cassette deck, amp and tuner while leaving plenty of room for a subwoofer. Two lanky satellite speakers complete the set, which, when combined with the sub, thump out a remarkably good soundstage, ideal for today's big-beat music and the like, although classical lovers may find their favourite symphonies sounding a tad tinny.

A breeze to install, you simply need to connect the speakers and plug the thing in. The system also has inputs for phono, MiniDisc and RDS to automatically tune in up to 30 FM stations. Other bonuses include a timer for recording radio shows, one of the most comprehensive remotes you'll ever see (pictured), and the joy of smugly watching your friends' jaws hit the floor when they first lay eyes on your skyscraper-esque new hi-fi.



* These are typical High Street prices, accurate at time of going to press. Manufacturers are no longer obliged to provide recommended retail prices on certain consumer electronics products.



Leowe Spheros 42-inch Plasma TV

***£13,500 Contact: 0500 888909**

Yet another telly has arrived on the market, ready and willing to snap your spine as you attempt to lug it out of the box. Make no mistake, however, the Leowe Spheros 42-inch Widescreen Plasma TV is a wieldy beast, but when installed it will genuinely bring forth gasps of amazement from anyone wandering into your living room.

Consisting of the exquisitely crafted silver screen itself, a motorised stand, the master unit that includes the necessary tuner and connectors for DVD player and satellite, and a pair of active speakers, the skinny Spheros certainly delivers the pics. Colours are rich and vivid while, thanks to the wonders of progressive scan, the amount of detail on display is staggering.

Unfortunately, the sound doesn't live up to the imagery, the speakers merely being adequate additions rather than the excellence you'd expect at this price point, and the absence of Dolby Digital is, frankly, unforgivable. The mass of fiddly little wires that need to be connected before the damn thing works is also disappointing, especially as they come with no real instructions or colour coding. Leowe can't be forgiven for cutting corners like this.





Nokia 9110 Communicator

***£350 (with connection) Contact: 01480 434343**

Far less clunky that its brick-like predecessor, the new Nokia 9110 Communicator means that for the first time you really needn't be out of touch ever again. Setting up is simply a case of slapping in your Sim card and entering your Internet provider's details, and before you know it you can be checking your emails, faxing your colleagues and surfing the Web from wherever you find yourself.

As if this wasn't enough, there are simple action games, spreadsheets and programs for composing your own ring tones, so you can annoy fellow commuters to your heart's content.

There are niggles, though. The mono screen is fine for writing emails or keeping the personal organiser up-to-date, but trawling though graphic-laden Web pages can be a painfully slow pastime. Also, you'd think that Nokia might have included satellite connectivity for using the phone around the globe. Maybe next time.

Edge has attempted to state prices wherever possible, but for up-to-the-minute information, check adverts in the national press or contact your local consumer electronics dealer.

And it's goodbye from Tokyo

Japan: It's a long-standing tradition at Japanese exhibitions for the ranks of female hired hands simply not to pack up and sidle off at the end of each day, but to form orderly lines and bid farewell to visitors. The spring Tokyo Game Show presented some ideal photo opportunities, then…





Sega had so many girls (in Dreamcast colours, natch) that **Edge**'s lensman couldn't fit them all in one frame









Photography: **Hiroki Izumi**

Dressing to kill

Japan: A trip to Japan for the avid gamehead isn't complete without a jaunt over to Tokyo's Akihabara district (aka Electric Town), and **Edge** recently took a break from Tokyo Game Show duties to check out its favourite game outlets. Game merchandise always ranks highly on the list of desirables in Akihabara, and the newest wave to hit the shops didn't disappoint. Along with fairly obvious items such as cute clocks fashioned in the image of game characters, though, **Edge** discovered some rather more intriguing items – most bizarrely, perhaps, the full-size replica *Final Fantasy VIII* outfits. Yes, for the princely sum of ¥88,000 (approx. £460) each, you and a ladyfriend can walk down the street convincingly fitted out as Squall Leonheart and Riona Heartily. Shockingly, for what on the face of it seem like niche items, both outfits had sold out at the time of **Edge**'s visit. You can bet Lara's clothing range wasn't this popular.





Clockwise from right: Beat 'em up towelling bags; *FFVIII* costumes; slick *FFVIII* models; clocks with character





Controller freaks

Japan: The success of games such as *Final Furlong*, *Get Bass!* and *Rapid River* is proof that arcade-goers hunger for something more than simple joystick-and-keys combinations nowadays, and coin-op manufacturers have recently gone into overdrive in pandering to their whims. February's AOU show in Tokyo revealed the latest examples, the most innovative being Taito's *RC de Go!*, a model car-racing sim whose controller apes the real thing perfectly. Other notables included Namco's *Angler King* (complete with effects driven by air-compressor), Konami's *Guitar Freaks* (with an electronic axe featuring three buttons in place of frets, and a flickable rocker-switch you 'strum'), and Sega's *Balance Try*, whose gameplay simply could not exist without a custom surfboard-esque controller. So don't hold your breath for a Dreamcast conversion.















Controller highlights at AOU: Taito's *RC de Go!* (above); Sega's *Balance Try: Motion Trial Project* (top left); Konami's *Guitar Freaks* (left)

Photography: **Hiroki Izumi**

A sticker kit too far







Gran Turismo creator Kazunori Yamauchi drives a rather distinctive car to the office

Japan: You may recall Polyphony Digital Inc. executive vice president and *Gran Turismo* creator Kazunori Yamauchi excitedly telling **Edge** about a set of car decals he'd bought in an online auction in **E**68's *GT2* world exclusive prescreen. The decal set was taken from current World Rally Champion Tommi Mäkinen's car after he'd finished thrashing it in last year's Australia Rally. Well, on a recent trip to Tokyo, **Edge** revisited Polyphony's offices and met up with Yamauchi-san, who proudly showed off the new livery of his blood-red Lancer Evolution V. Tokyo's main Mitsubishi dealer was entrusted with the laborious yet delicate task of applying the decals, and the result is undeniably impressive.

Inside Yamauchi-san's car, rather than empty crisp packets, discarded Mars bar wrappers and a pack of Handy Andies, you'll find a four-point racing harness, a firmly-secured fire extinguisher (a requisite before any car is allowed onto a circuit) and a pair of OMP racing gloves for those weekends spent haring around the local track.

Unhealthy obsession or the dedication of a true professional? The latter seems more likely.

Bandai victorious in handheld head-to-head

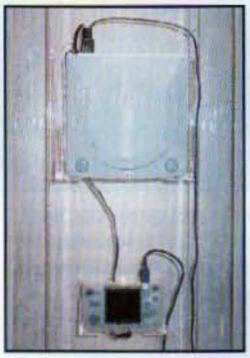
Japan: 'I'm not BOY' shout Nipponese adverts for the updated Neo Geo Pocket, now featuring a colour display in place of the original's monochrome screen. Unfortunately for SNK, Tokyo's ad men have hit the nail right on the head – and it's sealing the Pocket's coffin. First weekend sales for the new handheld scraped in at a distinctly un-Game Boy-like 294 units. Despite several promising features, including a Dreamcast link-up facility and a wireless multiplayer system, it seems that Japan's youth simply aren't interested.

Meanwhile, the performance of the WonderSwan – Bandai's foray into the handheld market – is going more smoothly, helped in no small way by a suitably tiny price point and a version of Taito's ludicrously popular *Densha De Go! (Let's Go By Train!)*. Now you can run your own train on time while sitting in a carriage of the real thing. First week sales of almost 60,000 seem to indicate that Bandai is on to a winner.

Software support for the WonderSwan has come from all quarters of the Japanese videogame industry, including big hitters such as Namco. Both Sega and Sony are even reported to be interested in Bandai's booming baby, although SNK's Dreamcast cable for the Pocket Color acts as an umbilical connection to Sega. But with Dreamcast currently shipping less than 10,000 units per week (unaided by a slew of second-rate software titles), it could prove a match made in hell. Certainly, if SNK fails to deliver anything more exciting than *King of Fighters Dream Match '99* and sister Pocket title *King of Fighters R2*, then **Edge** can't see anything but stormy waters ahead for SNK's capable little handheld.

Tucked away on the Neo Geo Pocket stand at the Tokyo Game Show was an add-on that elicited excitement from all who spotted it. Piggybacking the console via its cartridge slot, SNK's ingenious wireless multiplayer unit allows up to 64 players to simultaneously play together. The nature of the titles which will support the unit is currently unclear, but strategy-led titles seem more likely than all-out actioners.

Neo Geo Pocket Colors should become officially available in the UK shortly, but the WonderSwan remains unlikely to receive similar support.



SNK's Neo Geo Pocket Dreamcast link was demonstrated with *King of Fighters R2*. Excited yet?



The original mono version is still relatively new, but SNK has already succeeded it with this version



Take on up to 63 other players with SNK's innovative radio-wave link-up add-on





SNK and Bandai went head-to-head at retail. The latter won

DataStream

Number of redundancies the Sony Corporation will make over the next four years to help 'consolidate its industrial empire': **17,000**
Percentage of Sony overall profits predicted to have been generated by PlayStation: **51%**
Total area taken up by E3 in Los Angeles this year: **525,000 sq ft**
Total number of software titles exhibited at E3 last year: **1,600**
Amount of work required to develop the next generation PlayStation's Emotion Engine CPU: **238 man years**
Cost of new fabrication plant for Sony's Emotion Engine chip, due online March 2000: **$580m**
Amount of money GT Interactive has earmarked to promote *Driver* in the UK: **£1m**
Winning bid on eBay for an *Ultima Online* character, built up over five years with more than 500,000 gold pieces, rare armour and myriad silver and magical weapons: **$521**
Number of Dreamcasts Sega predicts it will have sold globally by the time Sony launches its new machine in Japan: **5.5m**
Units of Dreamcast software Sega predicts it will have sold globally by that point: **36.1m**
Percentage increase in profits for Konami in 1998: **89%**
Opening week figure for *Wing Commander* movie in US: **$5m**
Amount of money 3Dfx is planning to spend on TV, print and Internet advertising to promote its graphics cards: **$20m**
Percentage of Japanese developers polled by *Famitsu* who felt that the next generation PlayStation wouldn't be as popular as the original unit: **29%**
Percentage of UK working-class families that have a console in the home: **72%**
Percentage of children in UK who have a PC at home: **53%**
Time each day that British children spend in front of TV screens: **5hrs**
Cost of a single ticket for the Millennium Dome: **£20**
Fee to be paid to Neil Diamond for playing a concert on New Year's Eve 1999: **$9m**
Ticket price for Barbara Streisand concert on the same night in Las Vegas: **£1,250**

Home improvements

UK: With the sales of guitars long outstripped by samplers, the musicians of the future are more likely to fall down the stairs than suffer stage-diving injuries. No surprise, then, that the fight for the bedroom musicians' dollar is warming up thanks to a number of sequel titles. And after working through Hip Hop and Rave variations, the PC-based *eJay* series is returning with *Dance eJay2*.

Unfortunately for the nation's sanity, this is an extremely easy program to use – just click and drop a combination of the 1,300 preloaded samples into place and let rip. Many features have been uprated. You can now record using 16 tracks, each with individual volume control, rather than just the eight of the original. There are plenty of new gadgets to play with, too. A groove generator lets you build drum tracks using ten samples in 1/16-second chunks. The effects studio allows samples to be filtered, echoed and distorted until even the most twisted ears are content. Full-on boffins can also time-stretch samples, varying the standard 140bpm tempo. And if that wasn't enough, publisher Fast Trak has even set up a 12-inch record label to release the results of its little monster. Has it never heard of what happened to Dr Frankenstein?



Cashing in on the bedroom DJ bandwagon, making beautiful music is as easy as arranging coloured blocks with the uprated *eJay 2*

Playing for laughs

USA: If you're fed up with the half-arsed reporting and persistent bickering that plagues so many game-related sites on the Internet, you may find solace by visiting two concertedly alternative 'news' resources whose take on the world of interactive entertainment is as whacked-out as it is controversial.

The Mushroom (**www.themushroom.com**) is a direct homage to renowned satirical site The Onion, and is updated as often as its maintainer can manage (ie, irregularly). Content-wise, it's at its best when it has a pop at targets less obvious than Nintendo and Bill Gates, and its spoof news stories are in many respects better written than those of National Game Review (**www.nationalgamereview.com**). Both sites really shine, though, when their authors wheel out *Photoshop* in order to doctor imagery with which to illustrate their stories. Morally bankrupt both sites may be, but at least they endeavour to raise a smile.



National Game Review (top) and The Mushroom (above): not yer average Websites

Something fishy going on

Japan: There are always lots of niche titles shown at the Tokyo Game Show, but rarely are they given as much stand space as *Seaman* was at the spring exhibition. The Dreamcast title, featuring, as the title suggests, a fish/man hybrid, was accompanied by 'authentic' curios hand crafted by the creatives behind the project. Least convincing was a fish/man skeleton and a dehydrated research specimen (below), both looking like second-rate *Sunday Sport* hoaxes.



Virtual insanity

UK: Union Reality's PC headgear peripheral arrived in the **Edge** office this month, and brought with it some amount of interest. Ideally designed for flight sims, it replaces the lookaround facility usually assigned to a mouse, but proves just about unworkable with titles such as *Half-Life*, devilled as it is by continual fiddling with sensitivity levels. Side effects, meanwhile, include a crooked neck and hot ears. And even putting the thing on the right way proved too taxing for some test subjects...



Classics in Color

UK: Typifying the complexities of game licensing, the fabulous classic shoot 'em ups *R-Type* and *R-Type II* are headed for Game Boy Color. London-based conversion specialists Bits Studios signed up the worldwide rights from original developer and publisher Irem before re-licensing to Nintendo for the Color.

Containing both the original titles (in mildly re-worked form), a save facility, and new interpretation *R-Type DX*, the cart will be nothing if not good value. *DX* is a medley of both *I* and *II* with snazzy new graphics and – remember this? – parallax scrolling. Not bad. And although Bits hasn't had access to any of Irem's code, it created the previous monochrome version for the chunky old Game Boy, so it should be able to produce a fine game for the Color. Either that or **Edge** sends the heavies 'round…







Girls power AOU

Japan: Attendees of the recent AOU exhibition tired of the lure of things that go bleep had a surfeit of peripheral attractions to divert their attentions – namely a line-up of fillies eager to demonstrate their company's wares or simply stand around as items of decoration. Here's this year's gallery…



One of Capcom's staff presented *High-Power Businesswoman Sim*



Play *Dance Dance Revolution* or chat to the Konami rep? Hmmm…



Not sure about these girls' names, but Naomi's lurking somewhere



GP500 was one of the few disappointments on Namco's stand



Jaleco's stand was the spangliest – and that was just the outfits



Bub (or is it Bob?): the happiest dinosaur at the event



"Have you seen my dinosaur around here at all?"



Namco's stand: an ideal stopping-off point for weary showgoers

Photography: **Hiroki Izumi**

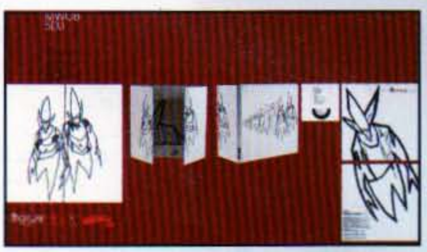
Crown jewel cases

UK: 'Nobody ever bought a record cos they liked the cover' is the opening statement of *Sampler*. Considering some of the examples on display here, if it were true, there would be some pretty full record label warehouses. Contrary buggers, then, these record sleeve designers. But despite the fact they have to concentrate on jewel cases and CD-sized covers, rather than old-style gatefold LPs, they are still innovating, and still selling records. Collected together by Intro, itself famous for work with Primal Scream, and Depeche Mode, *Sampler* shows off some pretty impressive work. Other designers featured include Tomato (whose Underworld links have brought about its most widely known work), Designers Republic (Autechre) and Vaughan Oliver (v23). Just remember, it's one for the coffee table rather than the turntable.

Sampler is published by Laurence King, £20.
An exhibition featuring original work from the book will run at the Levi's Store, 174 Regents Street, London until May 16.

Design innovation among the pages of *Sampler*, a pornographic tome for graphic visionaries







'Crash' and burn?

USA: After his trashing of 'Crash', **Edge** was concerned to learn that David Cronenberg's latest film is about computer games. And while 'eXistenZ' is an interesting attempt to explore photorealism in games, it's really more telling of Cronenberg than it is gaming, with heaps of his trademark ickiness. Not least this is because the kidney-shaped metaflesh gamepods of the future are made from mutated amphibian organs. They also plug straight into the nervous system via a bioport stamped into the base of the spine – cue all manner of multiplayer-as-sexual-orgy metaphors. This is fine when Jennifer Jason Leigh is head-to-head with Jude Law, yet it wouldn't work *quite* so well if you were online with the jocks on MSN Gaming Zone.

The plot, such as it is, focuses on Leigh, the greatest games designer in the world. Following a demonstration of her latest game, *eXistenZ* (think *Shenmue* running on the next generation PlayStation), she finds herself on the run from an anti-gaming realism group. Worried that the game is damaged, she persuades Law to play it with her. When in the game, they're chased by the aforementioned group. Then everything becomes even more complicated with the 'Is this reality or is this a game?' conundrum featuring heavily. Unsurprisingly, the ending relies on cinematic sleight of hand to sort out the mess. Somehow you can't imagine Yu Suzuki quaking in his virtual boots just yet.



Law brandishes a flesh-and-bone gun (above), while Leigh goes all gooey in the sack (right)





ORBITAL
The Middle Of Nowhere
(ffrr)

With dance music in decline, the time is ripe for old-timers such as Underworld and Orbital to show off new tricks. But whereas Underworld picked up the pace, Orbital remains in the shadows. You can't imagine a dancefloor heaving to these sounds. Even the sampling of the theme tune to 'John Craven's Newsround' has an ominous undertone, while 'Nothing Left Parts 1 & 2' does little to lighten the mood either. Pre-Millennial Tension strikes again.



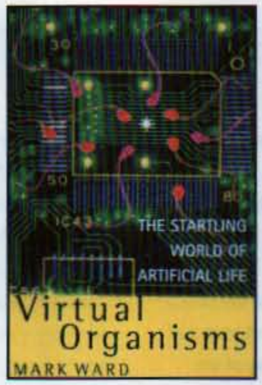
MOGWAI
Come On Die Young
(Chemikal Underground)

Considering its reputation as one of the loudest, most discordant bands since My Bloody Valentine, Mogwai's new album is a surprise. With Mercury Rev producer Dave Fridmann at the controls, gone are the deafening peak-to-trough bursts of feedback, replaced by almost pastoral layers of sound. Some piano sneaks on to one track, while a waltz is manifest on another. Thankfully, though, its fearsome grasp of rock dynamics remains. Glasgow's noiseniks may have gained volume control but still remembers how to get the pulse racing.



dEUS
The Ideal Crash
(Island)

Starting with a stab of white noise, dEUS seems determined to remain acommercial on this, its third album. The more avant-garde '90s rock gets, the more it delights the critics and confuses the public. 'The Ideal Crash' will only widen that gap. But listening opens up the melodies and draws out the intricacies of interlaced violin and trumpet parts. This isn't an obvious record – even for dEUS. It's more like a soundtrack to the silent movie they never made.

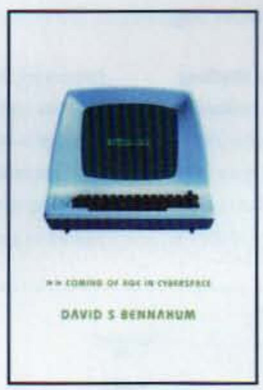


Author: Mark Ward
Publisher: MacMillan
ISBN: 0 333 72482 8

VIRTUAL ORGANISMS

"It lives," cried Dr Frankenstein after passing several thousand volts through his monster. Computer scientists have attempted to emulate this feat in the field of artificial intelligence for the past 50 years. Alan Turing's famous test is perhaps the most notorious: if you have a conversation with a person in one room and a computer in another, and can't tell which is which, the computer is intelligent. But, as Mark Ward suggests, there are other forms of intelligence in the world. Robotics expert Mark Tilden measures the intelligence of the machines he builds with a 'Purring Test'. If he can convince his cat that a robot is alive, then it satisfies many of the basic attributes of a living object. Welcome to the crazy world of artificial life.

A-life may be a backwater, but at least it's a fun one. The mass of strange characters that litter A-Life's history are proof of that. Ironically, though, Ward manages to kill off the subject with his dry prose. Maybe it's just another nail in the coffin of paper-based media – you get the impression that a CD-ROM version could be sensational. More worryingly, why no mention of *Creatures*?

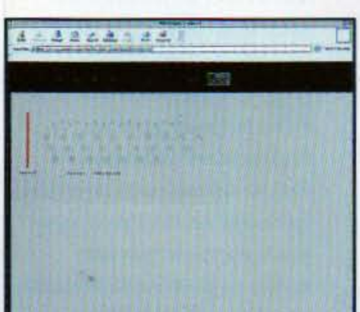


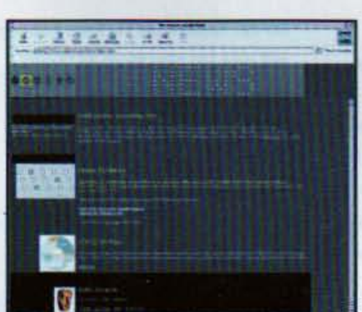
Author: David S Bennahum
Publisher: Basic Books
ISBN: 0 465 01235 3

EXTRA LIFE

The geeks have already inherited the earth, but it seems they're moving in on popular culture as well. 'Wing Commander' the movie is out, Hollywood is preparing for 'The Pirates of Silicon Village', a biopic of Bill Gates and Steve Jobs, and MIT Press promises a thick tome on the history of videogames. Even lowly journalists are getting in on the act, witness this, David Bennahum's *Extra Life*. Part autobiography, part social history, it chronicles the life of a kid growing up with computers in the early '80s. Plenty of 30-somethings could tell similar stories, but Bennahum neatly treads the line between the cloying details of his life (uninteresting) and the changes in New Yorkers when they come into contact with PCs (far more interesting).

As well as excitement, there is also poignancy in the way these poor rich kids escape the real world of divorced parents into the embrace of the school PDP-1. It didn't matter whether you were good at sports any more – you could be good at playing games instead. This proved to be a radical change for American society, too, as proved by the success of titles such as *Deer Hunter*. Now we are all digital. The geeks didn't just inherit the world, they fundamentally changed it. *Extra Life* may be just one of a million stories, but you're unlikely to read any told better.





INTERNET
Site: Audiorom homepage
URL: www.audiorom.com

After defeating all-comers at both last year's Baftas and February's Milia D'Or awards with its *Shift Control* multimedia work, London-based Audiorom is in a strong position for 1999.

For those seeking to sample some of the company's creative excellence, look no further than your Internet browser. Audiorom's homepage has several online 'interactive toys', including an interpretation of *Breakout* and several music sample-based offerings with which to while away a beat-filled break. With breakbeats, in fact.

VIEWPOINT

EXPRESS YOURSELF IN **EDGE** – WRITE TO: LETTERS, **EDGE**, 30 MONMOUTH STREET, BATH, BA1 2BW (email: edge@futurenet.co.uk)

Now that Sony has spilled the beans with details of its forthcoming PlayStation 2, I see no hope for Sega, which is reluctant to produce anything but arcade conversions. I find it most disturbing that after buying a Dreamcast I have actually bought into a franchise that was backed up by a lot of hype and expectations it could not meet. I want to see depth, imagination and new innovative ideas in my Sega games which, while high quality, do not match their Model 3 equivalents in graphical flair. Maybe you could say they offer the same degree of playability, but you could argue that it should have been the media alone making the hype for what is a truly awesome machine and not Sega, which doesn't have the right R&D teams to support it.

On another note, I have the utmost respect for Yu Suzuki, but his lack of commitment for the standalone Dreamcast is already becoming apparent. Opting to use Naomi's scaling capabilities only creates more concern for the potential western buyer. Again it seems that Sega's machine will be unsupported by its best man. *Shenmue* is obviously a big game for Sega and Suzuki-san, but that's just one game and most punters are looking at the long-term future. Suzuki-san needs to take a leaf out of Namco's book and support the standalone hardware, make great games and deliver. It is something that a lot of people would like to buy into, but Sega seems reluctant to change. If Sega makes the right moves now, it will not feel the pressure so much come December, when Sony will unveil an awesome machine in Japan and will only have to worry about a pricing strategy to blow Sega out of the home market for good.

Richard Stringer, via email

'If Sega makes **the right moves now**, it will not feel the pressure so much come December, when Sony will only have to **worry about a pricing strategy** to blow Sega out of the home market for good'

Four long years ago my family invested in a brand new Dell Precision 560. It was top of the range back then and could play all the great PC games at a stonking speed. Over the years I realised that I was able to play a smaller and smaller selection of the new games being released due to the rapidly increasing specifications of the PC.

My point is regarding the Dreamcast. Sega has made it very clear that the majority of the Dreamcast's software catalogue will be made up of quick-to-produce PC ports and fairly easy-to-do arcade conversions, and I'm concerned that soon the claimed two months it will take to do these PC and arcade ports will become a rather longer period of time – maybe even a year or two. Why? Well, look at the average console's life – three to five years. Now look at the PC games I was playing four years ago on my Dell, and now look at the PC games of today – *none* of them will work on my machine. The PC games of today will easily work on the Dreamcast, but in a year or so, with P4 700s and probably minimum specs of 3-400MHz and 64Mb of RAM becoming standard, the games are going to have to be significantly altered to get them to run smoothly on the Dreamcast. By then nobody will want to play them as they'll look shoddy in comparison to the PC counterparts. Even games being developed now such as *Quake III* will be unlikely to run on a Dreamcast. Imagine games in three years' time!

'Never mind, though,' you'll probably say, 'by that time there will be enough Naomi-Dreamcast arcade ports and enough original games to keep you going.' Wrong. Sega is already increasing the power of its arcade games. Look at *Ferrari F355* – it uses four(!) Naomi boards. I doubt it'll be long before most Sega games are using more than one board. I think there may not be as many coin-op conversions as Dreamcast owners would like, and isn't that the main attraction of any Sega console – the prospect of being able to play Sega's arcade gems in your living room? So, three or four years down the line I see the Dreamcast without most of Sega's arcade hits, or any of the PC's great games, all of which breaks the Dreamcast's main selling point. We can only hope Sega has realised this oversight and has got more Dreamcast-specific games other than *Shenmue* to come.

Jacob Lappin, via email



Is Sega making a mistake by pushing Dreamcast as an arcade-conversion platform? Richard Stringer and Jacob Lappin have somewhat conflicting views on the matter

Two Sega fans, one opposed to coin-op conversions, the other all for them. If Sega's devotees are this disparate in their desires, surely its job is set to be ever more difficult.

Regarding original DC software, Tetsuya Mizuguchi (of *Sega Rally 2* fame), at least, is currently working on a major Dreamcast-specific project which promises to be vastly different to his previous titles. You'll read an in-depth report on the game within these pages soon.

I worry that the problem which I feel has dogged the PlayStation will continue on the next generation version. When Sony announced the PlayStation, many frankly average or even bad developers jumped onto the format to make a quick buck, churning out

crap or, at best, average titles, and continued to do so throughout the life of the machine. True, the PS has hundreds of games, but how many are released on the quiet in order to catch out unsuspecting punters? How many of these games are new crap games or just crap rehashes of old games? The PlayStation still now has only about 30 games worthy of attention, and in my opinion only five or six classics at most (eg, *Final Fantasy*, *Gran Turismo*, *Metal Gear Solid*, *Tekken 3*). With the N64, we have the other side of the coin. The N64 has more good games in comparison to bad games, and more classics (eg, *GoldenEye*, *Mario 64*, *Zelda*, *F-Zero*), but, unfortunately, very few games at all in comparison to other systems, due to Nintendo's fussy development attitudes.

Still, I really do hope that the NGPS can hit the middleground here, and that Sony can undertake Nintendo's selective development policy and only let their new baby be blessed with great games, instead of piles of half-finished titles, rushed titles, remakes of crap games, or just plain awful games. All it needs to do is have a little self respect and not allow its own market to be cluttered up with dire titles, which is what was allowed to happen on the PlayStation.

However, for that particular state of affairs, the blame does not lie solely with Sony. Developers should concentrate their efforts on original ideas and high-quality games, without bothering with low-rate titles, which can basically be described as fillers made quickly to get the money rolling in. The finest exponent of this policy is Electronic Arts. Call me cynical, but it brings out the same game (*FIFA*) three times a year instead of coming up with new ideas. I'm just worried that with this attitude, if allowed to carry on to the next generation of superconsoles, we, the gameplaying public, will be led round in the same circles.

Alex Parratt,
via email

Ever since videogaming began, there's always been below-par software and there always will be. Sony may have revolutionised the industry in some respects, but this is something it can never conquer.

I've been reading **Edge** for over three years now, and have followed the pro-/anti-piracy debate in your letters page with interest. But nobody seems to have mentioned the category of 'pirate' that I, and many others, fall into. Firstly, not *all* piracy is bad – you can't tar us all with the same brush. Grey importers who 'pirate' the publishers' rights to sell games in the European union are hardly a menace to society, but it's still piracy and yet you're happy to place their adverts in the back of the mag. In my opinion pirates who copy games and sell them on to make a quick buck are the bad guys, and should rightfully be prosecuted.

I myself am active in piracy and own a CD burner, PC, N64 and V64, modded Japanese PS and will have a modded Dreamcast as soon as it's available. My reason for piracy is not about saving money, though. A quick calculation shows I've spent over £2,000 on hardware in the past two to three years alone (not including air flights to Hong Kong to purchase the equipment). I'd much rather that this cash went to the teams for producing the games, but why the hell should I wait an eternity for the Japanese giants to get their arses in gear and release the shitty, substandard PAL version when I can pirate it on its first day of release (and in many cases, before release) and get a faster version? Let's take some examples: I got *Tekken 3* upon its release in Japan and enjoyed it immensely. However, some three or four months later, PAL *Tekken 3* arrives here and plays like treacle – nobody in the UK could get the combos, juggles and reversals timed on the PAL version. Then, of course, there's *Metal Gear Solid*. Do they really expect me to wait six months for a substandard PAL version and say 'Okay'? No way. If they're not going to respect me as a valid consumer who would happily hand over £50 of my hard-earned cash for their game, then screw them. I'll connect to a site, download the disc in little under an hour, and be playing it the day it's released in Japan.

'Do they really expect me to wait six months for a **substandard PAL version** and say 'Okay'? No way. If they're not going to **respect me as a valid consumer**, then screw them'

Unfortunately, the *huge* expense I've endured in order to ensure that I have the latest games means I have little disposable income left to buy legitimate games (although I've always gone out of my way to reward titles that didn't take the piss – ie, *ISS64* and *TOCA 2*, both available here before anywhere else).

However, while game companies continue to treat me like a second-class citizen and are happy to screw Europe over, I'm more than happy to screw them over in return. Please don't respond with 'The situation will not change until people like you buy games legitimately' – I am merely a product that the games industry itself created. It's up to them to make the first move.

0day Pir8,
via email

In terms of morality, your actions are leagues apart from those who import software to the UK – lumping yourself together may ease your conscience, but it's a simple untruth.

I've read your reviews of *Sonic Adventure* and *Sega Rally 2*, and I totally agree with your opinion: both games were rushed and suffer slowdown and pop-up. Pierre L and Mr Mackintosh must have different versions to the ones I have...

Gary Rose,
via email

In response to Pierre L and Stephen Mackintosh in **E70**, you guys are failing to look at the games industry in a non-biased view. I suppose your football team, Formula 1 team or whatever can do no wrong either. **Edge** seems to be the wrong magazine for you.

Richard Pearson,
Nottingham

Congratulations on your 'Spuri OS' story [News, **E70**] – it was the best April Fool I've read, and it convinced quite a few of my friends.

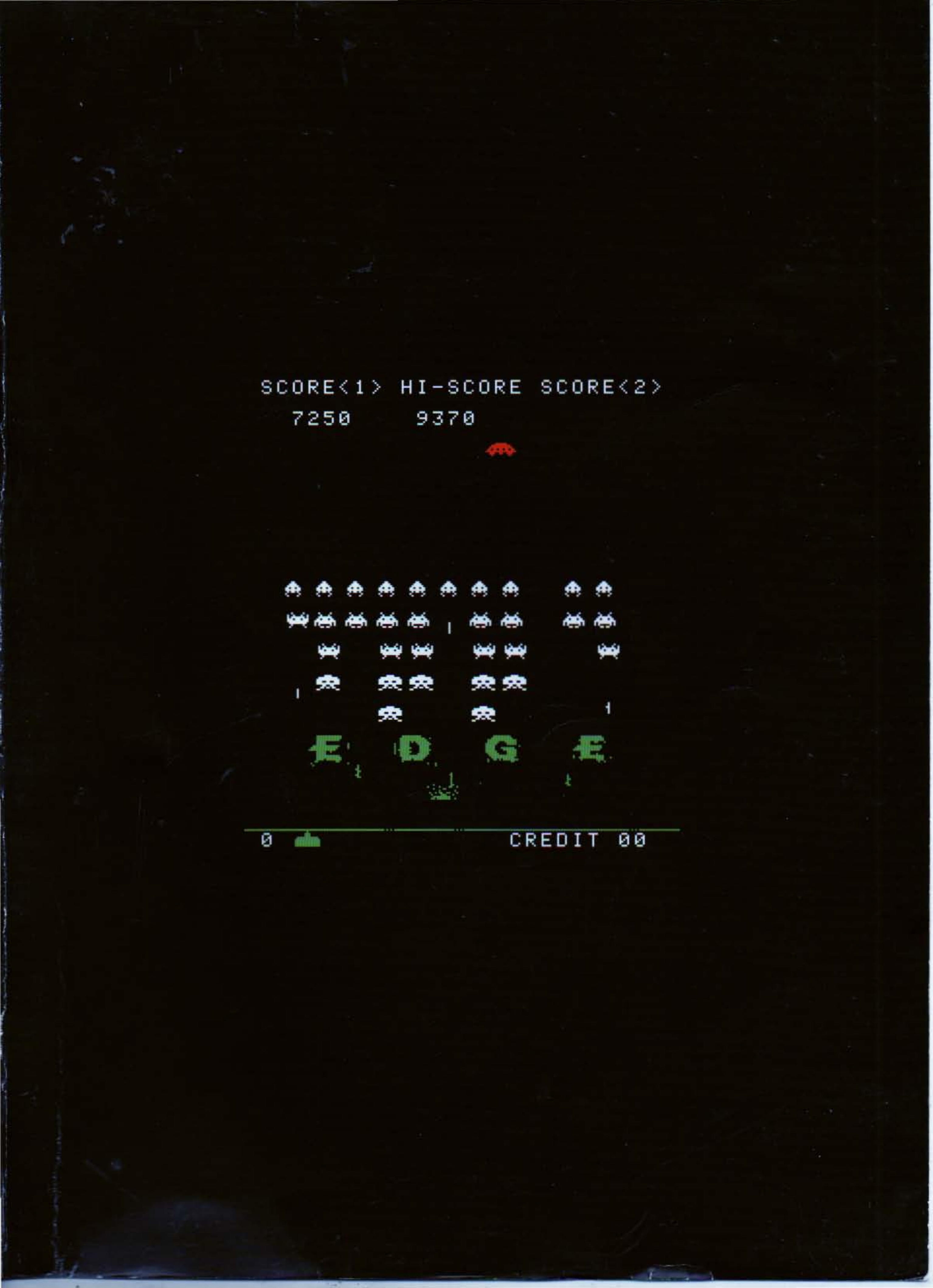
Steve,
via email

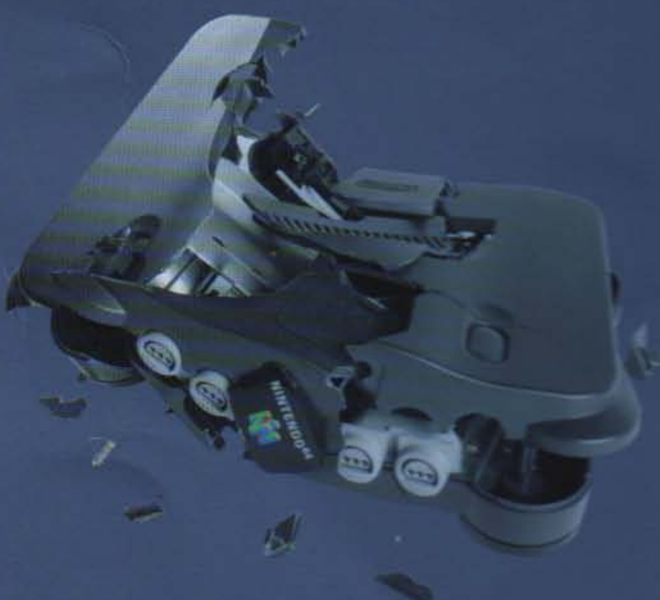
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